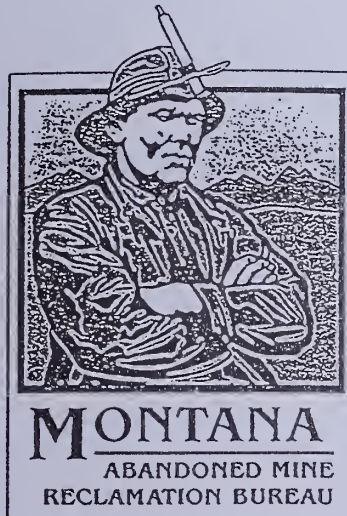


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1994 West Hill Sand and
Gravel Pit
Reclamation
Project, DSL-AMRB

FINAL REPORT

WEST HILL SAND AND GRAVEL PIT RECLAMATION PROJECT DSL-AMRB 93-002

Cascade County
Great Falls, Montana
Township 20 North, Range 3 East
Sections 9, 10, 15 & 16, M.P.M.



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FINAL REPORT

for

WEST HILL SAND AND GRAVEL PIT RECLAMATION PROJECT
DSL-AMRB 93-002

Cascade County
Great Falls, Montana
Township 20 North, Range 3 East, Sections 9, 10, 15 & 16, M.P.M.

Prepared for:

Montana Department of State Lands
Reclamation Division - Abandoned Mine Reclamation Bureau
1625 11th Ave.
Helena, MT 59620

December 23, 1994

Prepared by:

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1.0 INTRODUCTION

1.1 Project/Site Description

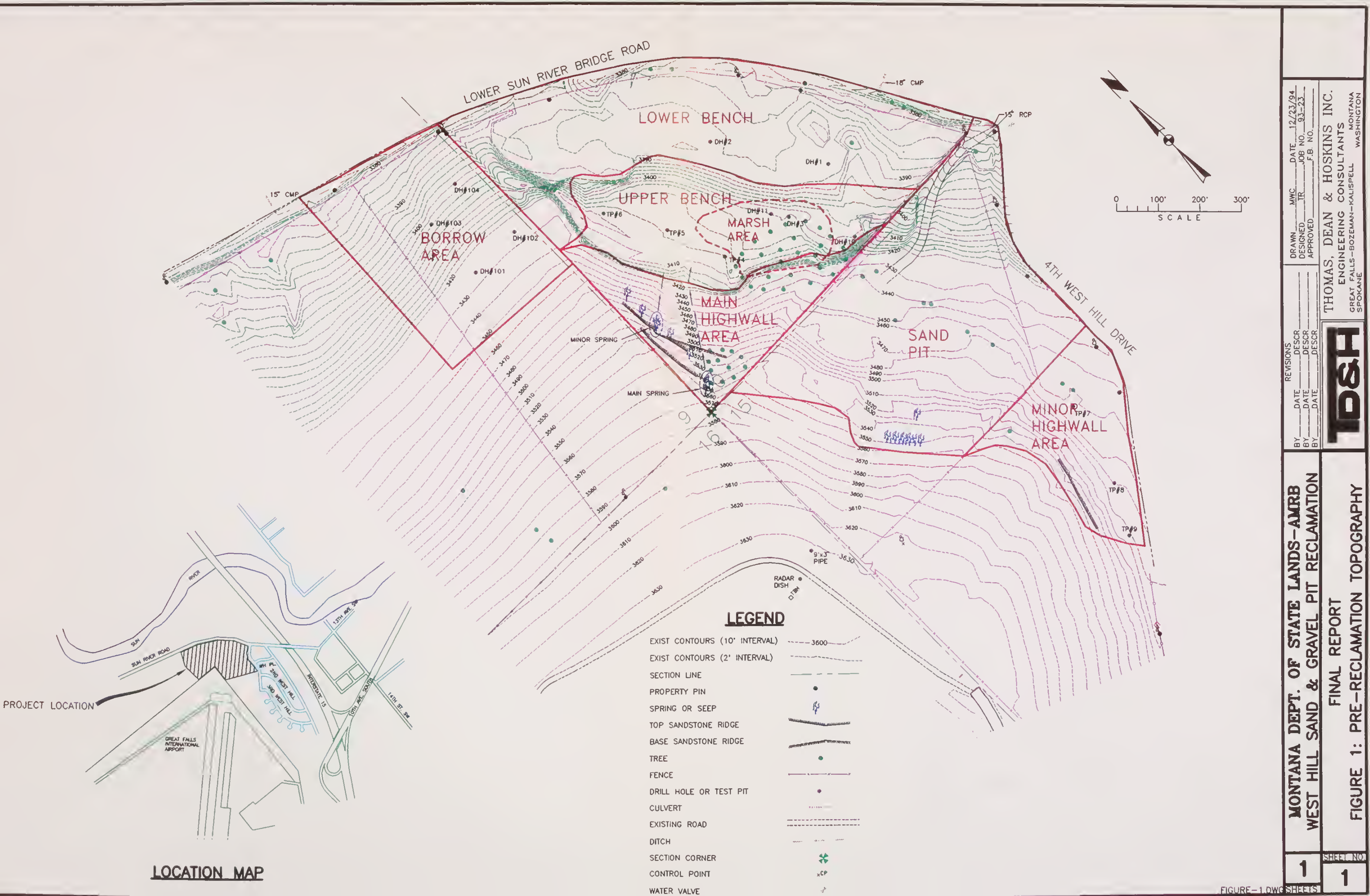
The site is located west of the City of Great Falls on the Northeast end of Great Falls International Airport Runway 3/21 in Township 20 North, Range 3 East (see Figure 1). The sand and gravel mined areas occupied portions of Sections 10 and 15. The reclamation project extends into Sections 9 and 16. The portion of the project in Section 10 had been an active gravel pit from prior to 1960 until the 1970's. The portion in Section 15 had been an active sand and gravel mine, operated by the City of Great Falls between 1976 and 1994.

The mined areas included unstable, steep slopes and rock outcrops which presented a hazard to children who play in the area. Aesthetically, the sand and gravel pits were an eyesore which were visible from virtually anywhere in Great Falls.

The pre-reclamation topography was dominated by a sandstone bench at the top of the slope. Ground slopes were generally to the North and Northeast, towards Sun River Road and 4th West Hill Drive. Existing slopes ranged from 1H:1V and 1.5H:1V in the highwall areas and in some excavated portions of the sand pit to around 2 or 3 percent in the Bench areas. The slopes above the areas defined in Figure 1 (South and Southwest) were between 2.5H:1V and 3H:1V. There were several sandstone outcrops exposed at different levels in the excavated areas and in the highwall areas. There were approximately 4.3 acres of highwall (1.5H:1V or steeper) in the project area.

Drainage from the slopes followed road-side ditches along 4th West Hill and Sun River Road. There was a 15 inch diameter culvert at the intersection of Sun River Road and 4th West Hill Drive and an 18 inch culvert about 200 feet north of this intersection. The 18 inch culvert carries runoff under Sun River Road and discharges into a drainage which eventually leads to the Sun River. A third culvert was located at the Northwest corner of the project. This 15 inch diameter culvert carries runoff across Sun River Road. Flows from this culvert eventually found their way to the Sun River also.

Several springs and seeps were visible in the project area. The seepage is derived from groundwater which flows along the top of and through cracks in the shallow sandstone layer which underlies the bench southwest of the project site. Two minor seeps were found at the upper end of the sand pit area. These seeps had no measurable flow during the rainy month of May, 1993. Most of the seepage occurs in the Main Highwall Area. There are two springs in this area. The "main spring", at the top of the Highwall area had a measured flow of approximately 10 gallons per minute on June 3, 1993. This spring flows year round and shows flow increases following rainstorms or snowmelt. Flow from the "minor spring" was approximately 3 gallons per minute on the same date. Other seeps shown in Figure 1 had no measurable flow.



Water from the springs and seepage flowed out of the hillside and down to the upper bench area. Because of the shallow shale layer in this area, the water was trapped on the surface resulting in a marshy area on the bench.

Prior to reclamation, the portion of the site in Sections 9 and 10 was being used to graze a couple of horses. Lee Janetski leased the property for grazing. The portion in Section 15 was an active sand pit operated by the City of Great Falls. The City agreed to stop borrowing from the site in exchange for the reclamation work. Borrow was needed from this portion of the project to provide enough fill for the main highwall in Section 10.

Land ownership in the project area is shown in Table 1.

TABLE 1: LAND OWNERSHIP

OWNER	PORTION OWNED
Cascade County	Sections 9 and 10
City of Great Falls	Section 15
Great Falls International Airport Authority	Section 16

The portion of the project owned by Cascade County was originally purchased by the Airport Authority as part of their efforts to purchase land within the runway protection zone. The property was quit-claimed to the County but the Airport Authority and the Federal Aviation Administration (FAA) still have control over any development on the ground. Because of FAA restrictions on land use, the site will not be developed with housing or other structures in the future.

Surrounding properties are a mixture of residential, rural developments. East of the project, across 4th West Hill Drive, is a subdivision called West Hill with numerous residences and paved streets. North and West of the project there are small farms, residences on large lots, and grassy fields. To the south and southwest is the Great Falls International Airport.

1.2 Site Problems and Project Objectives

The purpose of the reclamation project was to eliminate the hazards associated with the highwalls and create a stable, revegetated terrain.

The objectives for this project were as follows:

- Provide a stabilized slope in highwall areas;

- Regrade excavated areas to provide a smooth terrain;
- Alleviate problems associated with springs and seepage;
- Revegetate and control erosion on all disturbed areas.

The primary reclamation on this project involved filling in the "Main Highwall Area" of the abandoned gravel pit and controlling the water from seepage and springs. In order to obtain fill and to provide a uniform landscape, the adjacent "Sand Pit" will be excavated and recontoured. Additional fill will be provided from the "Borrow Area" at the Northwest corner of the project and from the "Lower Bench Area".

An added benefit to rerouting water from the springs and excavating the lower bench area is that an existing land movement problem on Sun River Road, just west of 4th West Hill Drive will be alleviated. The movement in this area is the result of a clay layer which becomes saturated and expands. This movement causes extensive cracking of the pavement. By removing a good portion of the overburden and reducing the amount of groundwater which reaches the clay, the problem will be lessened.

2.0 RESPONSIBLE PARTIES

The following firms and personnel were responsible for the project:

ABANDONED MINE RECLAMATION BUREAU

- Jack Yates, Project Manager

ENGINEER

- Thomas, Dean & Hoskins, Inc.
1200 25th St.S.
Great Falls, MT 59405

Tim Ranf, Project Manager & Design Engineer
Jack Holland, Construction Manager
Gary Franklin, Project Inspector

CONTRACTOR

- Shumaker Trucking and Excavating, Inc.
P.O. Box 1442
Great Falls, MT 59403

Joe Aline, Project Manager
Duane Shumaker, On-site Supervisor

SUBCONTRACTORS

- Montgomery Construction

P.O. Box 815
Hilger, MT 59451

John Montgomery, Project Manager
Ken Burnham, On-site Supervisor

- Prairie Hydroseeding
P.O. Box 2100
Havre, MT 59501

Bob Keeler, Supervisor

- Precision Woodworks
731 50th St. S.
Great Falls, MT 59405

- J.A. Contracting
1601 9th St. N.W. #210
Great Falls, MT 59404

Joe Aline, Owner

Shumaker had overall responsibility for the project. They installed all of the piping, ditches and ditch lining (riprap), straw bales, and gravel drain blanket. They subcontracted to Montgomery Construction for all of the earthwork (excavation/embankment & cover soil) on the project. Prairie Hydroseeding was subcontracted to do all of the revegetation work, including seeding, fertilizing, mulching, tackifier and plantings. Precision Woodworking and J.A. Contracting were utilized for all of the fencing on the project.

Duane Shumaker was generally the on-site supervisor for Shumaker although Ken Carlstad was initially the on-site representative. Ken Burnham was the on-site supervisor for Montgomery. Gary Franklin was the full-time field inspector for TD&H.

3.0 DESCRIPTION OF RECLAMATION CONTRACT

3.1 Planning and Design

Design work for the project was conducted by Thomas, Dean & Hoskins under AMRB Engineering Services Contract DSL-AMRB 004, Task Order 07. Geotechnical Engineering was provided by NTL Engineering and Geoscience, Inc. of Great Falls, under subcontract to Thomas, Dean & Hoskins.

Work began on design in March, 1993. The ground survey was begun March 22, 1993. Approximately 50 acres were surveyed using a Lietz 3 Total Station with electronic field book. The survey took about 8 days.

A geotechnical investigation was conducted to provide geotechnical information and recommendations for the design of slopes and evaluation of available on-site, borrow materials for slope construction. This work included an engineering reconnaissance, subsurface investigation, laboratory testing, and slope stability analysis. The reconnaissance involved field observations and a review of available literature on soils at the site which included reports by MDOT (1962 & 1968) and Northern Testing Laboratories (1976 & 1983). The subsurface investigation consisted of 11 borings and 8 test pits. The borings ranged in depths from 10.5 and 36.0 feet, while test pit depths varied from 5.0 to 18.5 feet. Laboratory testing was conducted to determine soil properties. Tests included natural moisture, natural density, Atterberg limits, gradation, shear strength (unconfined compression & direct shear), and moisture density relationship. The stability analysis involved computer analyses of alternate slope configurations to determine whether the slope would remain stable after construction.

The soils materials present in the project were described in the geotechnical investigation report as a relatively complex sequence of glacial and post-glacial soil deposits overlying Cretaceous sandstone and shale. The subsurface materials were generalized into the categories listed below:

1. Silty and Poorly-Graded Sands: surficial post-glacial deposits of wind-blown or colluvial (slopewash) origin.
2. Poorly-Graded Sands with Silt and Gravel: glacio-fluvial materials of outwash or meltwater deposition.
3. Fat Clay: glacial lakebed sediment.
4. Lean Clay with Gravel/Clayey Gravel/Poorly-Graded Gravel with Clay: glacial till deposits emplaced on valley walls.
5. Sandstone and Claystone Shale: Lower Cretaceous bedrock materials comprising valley walls.

The preliminary design report and geotechnical report were submitted on June 8, 1993 for review by AMRB. Two alternative slope configurations were included in the preliminary design: one with majority of slopes at 3H:1V; and one with majority of slopes at 2.5H:1V. Various options for controlling seepage under the fill were evaluated also. The recommended alternate involved a 3H:1V slope with a gravel drain blanket under the main fill. The less steep slope was recommended because of the increased stability, ease of access, and better chance of establishing vegetation. The estimated construction cost in the pre-design report was \$914,000. The recommendations were as follows:

1. Install subdrain at top of slope, near the section corner.
2. Install subdrain at the toe of slope.
3. Clear and grub areas accessible to equipment.
4. Strip topsoil off affected areas.
5. Prepare surface, install gravel drain blanket and construct fill starting from the northwest corner of the "Main Highwall Area" and work around the existing slope.
6. Regrade and fill the "Sand Pit" area.
7. Construct drainage swales and ditches.
8. Prepare slope, seed and fertilize.
9. Install erosion control blanket on slopes 4H:1V or steeper.

The estimated excavation volume was 190,000 cubic yards and the estimated disturbed area was 24 acres.

Upon review with AMRB and further discussion, the design was revised to incorporate more area at the southeast corner of the project, along 4th West Hill Drive, and the steep area at the top of the "Main Highwall Area", near the section corner. In order to incorporate the portion near the section corner, and area of 2H:1V slope was required. More fill was needed to accomplish this. Additional areas for excavation included a portion of section 16 and more excavation area in sections 9, 15 and at the low end of section 10. Erosion control blanket was eliminated (replaced with crimped in straw mulch) on all but 2H:1V slopes and additional subdrain piping was added at the recommendation of the geotechnical engineer.

Input on grass and seedling species was provided by AMRB. Soil samples were analyzed and fertilizer recommendation provided by Western Testing Laboratories in Great Falls.

The final design included an estimated 240,000 cubic yards of excavation and 39 acres of disturbed area. The fill required for the project was estimated at about 200,000. A shrink factor of 15% was used for the earthwork calculations based on recommendations from the geotechnical engineer for the predominant soils involved.

After reducing the estimated unit price for excavation from \$2.25 to \$1.50 per cubic yard at the request of AMRB, the final cost estimate was \$699,474.

The revised plans and bid documents were submitted to AMRB on December 20, 1993. Final publication of bid documents was completed on March 1, 1994.

Additional planning and design work was conducted during construction. This work involved the development of a conceptual park plan for the project site. AMRB directed TD&H to develop some ideas and conceptual plans for a potential park at the site. Representatives from the City of Great Falls, Cascade County and the Airport were contacted to see if there was any interest in such a concept. After determining there was significant interest, TD&H developed two plans - one which included ball fields and one which was more of a nature trail, low maintenance concept.

A meeting was held on August 2 with City and County representatives to discuss the potential park plans. The nature park concept was generally agreed upon as the preferred alternate. It was agreed that there was enough interest to pursue the idea further. A big concern was raised over whether the airport or FAA would allow a park at this location. Further contacts were made and the plan was refined and distributed to the concerned agencies. The Great Falls Tribune ran a story on the park in August. In September, FAA was contacted by TD&H to see where they stood on the issue. The representative from FAA stated that this was a "dead" issue and that there would be no park at this location. It was, however, felt that there was still some hope for the park and AMRB wanted to leave the project at a point where there would be a plan for future development of the site. TD&H was directed to develop a tree planting plan for the AMRB to use in bidding the installation of 50 full size trees at the site in 1995. The park concept was transferred to the final topographic map of the site and the trees and seedlings were located to avoid potential trails and sled runs.

In November, Jack Yates from AMRB contacted John Styba at FAA about the park issue. Out of this conversation, it was determined that FAA had misunderstood some of the plans for the park. In fact, this site lies 200 feet below the runway protection zone and, as long as the Airport maintains control over development, the park is a potentially viable development in the eyes of FAA. Mr. Styba stated that it is up to Cascade County and the City of Great Falls to pursue the issue further. With that in mind, a final park plan was developed which shows the possible trail layout, picnic tables, sled runs, full size trees, seedlings and possible locations for 2000 seedlings to be planted next year (see Attachment 7).

3.2 Bidding and Pre-Construction Administration

Construction management was conducted by Thomas, Dean & Hoskins under AMRB Engineering Services Contract DSL-AMRB 004, Task Order 11.

Advertisement for the project occurred between about March 1 and March 24, 1994.

A pre-bid conference was held on March 15, 1994 at the office of Thomas, Dean & Hoskins (see Meeting notes and attendance sheet - Attachment 5). After a brief review of the project and a few questions, the meeting was moved to the job site. Prospective bidders were toured

through the site and questions were answered.

Bids were opened on March 24, 1994. Six bids were received (see Bid Tabulation - Attachment 1). The Contractors and their bids are summarized in Table 2 below.

TABLE 2: BID SUMMARY

CONTRACTOR	BID AMOUNT
Shumaker Trucking and Excavating	\$ 566,582.50
Montgomery Construction	\$ 587,147.50
A.M. Welles, Inc.	\$1,056,742.50
Empire Sand & Gravel	\$1,078,260.00
S K Construction	\$1,298,688.00
United Materials of Great Falls	\$1,080,252.00

The Engineer's estimate for the project was \$699,474.00.

The disparity in bids was mainly the result of differences in bid unit prices for excavation/embankment. The unit prices for this item varied from \$0.99 to \$3.22 per cubic yard which resulted in a bid amount variation from \$277,600 to \$772,800 for this item. The low bidder, Shumaker Trucking and Excavating, bid \$1.42 per cubic yard for a bid amount of \$340,800.00.

An award was made to Shumaker Trucking and Excavating (Shumaker) on about April 1, 1994.

The Agreement between Shumaker and DSL was dated April 18, 1994. The contract amount was \$566,582.00.

Notice to Proceed was given to Shumaker on May 5, 1994. The notice stated that Shumaker must commence work no later than May 16, 1994. With 90 consecutive calendar days, the completion date was set for August 18, 1994.

3.3 Construction Administration

The following paragraphs describe, in approximately chronological order, the progress and methods of construction, as well as significant problems encountered and the methods used to correct these problems.

3.3.1 Preconstruction

A preconstruction conference was held at Thomas Dean & Hoskins on May 4, 1994 (see minutes - Attachment). The Contractor elected to work 4 - 10 hour days each week. The City of Great Falls consented to allow Shumaker to utilize City water from the on-site fire hydrant(s) for dust suppression. DSL consented to reimburse Shumaker \$400.00 for the Stormwater Discharge Permit through a change order. Other discussion included a change order to apply a tackifier to the mulch for erosion control in the interim period between mulch placement and seeding in October and re-applying the tackifier after seeding.

It was noted during the preconstruction meeting that the City had removed 11,000 cubic yards of sand since the original ground survey used as the basis for design. TD&H had re-surveyed the area to determine the quantity. Some additional material had been stockpiled at the top of the hill from an Airport project which was also surveyed. This material included about 9,000 cubic yards. With extra material built into the design, it was determined that adequate fill was available for the slope construction without major changes in design. Using the re-survey data, the "existing ground" topographic map was revised on the plans and the effected cross-sections were revised accordingly. This revised contour map was used as the pre-reclamation survey for earthwork calculations.

3.3.2 Earthwork and Piping Construction

Construction start up occurred on May 10, 1994. Shumaker began by constructing the cutoff drain at the top of slope (see as-built drawings - Attachment 6). The hillside was dozed to provide a level surface area for excavation. Equipment used for installation of the cutoff drain and slope grading included the following:

- 1 - D8 Cat/Dozer;
- 1 - EL 300 Cat Backhoe;
- 1 - 436 Cat Backhoe/Loader;
- 1 - 322 Bomag Vibratory Roaller;
- 1 - 450D John Deere Dozer;
- 1 - 980C Front End Loader;
- 1 - Tamper;
- 1 - Whacker; and
- 2 - Pickups.

After installation of the cutoff drain, Shumaker began work on installation of the toe drain at the toe of the main highwall area. The toe drain location was shifted towards the slope to accommodate drainage better. This required some clearing and removal of sloughed material from the toe prior to pipe installation.

Montgomery Construction began stripping cover soil and excavating from the site on

May 16, 1994. Equipment used for this work and throughout the project included:

- 3 - TS18 Terex scrapers;
- 2 - TS24 Terex scrapers;
- 1 - D9 Push Cat;
- 1 - 120 Cat Patrol;
- 1 - Cat DW21 Sheepsfoot Roller
- 1 - D8 Cat Dozer;
- 1 - Raygo Vibratory Roller;
- 1 - Water Truck;
- 1 - Service Truck; and
- 2 - Pickup trucks.

Shumaker was clearing and grubbing trees from the project at the same time as cover soil was being stripped. Trees were hauled off site and disposed of in a landfill. A rain delay occurred between May 17 and May 21, 1994. Work resumed on May 23.

Drainage ditches around the project perimeter were excavated while cover soil was being stripped. The excavation was accomplished by Montgomery using their dozer. Shumaker began installing the bank stabilization fabric and rock in the riprap lined section of the ditches on June 1. The bank stabilization fabric came in widths less than the ditch width. Shumaker tried using two-six foot wide pieces to span the required 12 feet but was directed to use a single, 12 foot wide strip instead. Riprap for the project was generally much larger than the specified 12 inch minus size, but was approved anyway.

When the toe drain had been installed, Shumaker began placing the pit run gravel for the drain blanket. This began on June 2. The work required coordination between Shumaker and Montgomery because the slope was too steep to work on all at once. Montgomery would place fill, create a work pad and strip cover soil off of the slope as far up as their backhoe would reach; then Shumaker would install the gravel up the slope in a 2 foot thickness. They also installed the downslope drain up the slope as the fill progressed.

Montgomery began excavation and fill construction around June 1. The cover soil stripping was conducted concurrently with the excavation. While excavation and fill construction was occurring at the low end of the project, cover soil was being stripped at the west and east ends. Table 3 shows the estimated quantities of excavation on a weekly basis.

TABLE 3: SUMMARY OF EXCAVATION QUANTITIES

WEEK	ESTIMATED QUANTITY EXCAVATION/EMBANKMENT (cubic yards)
5/23 - 5/29	24,700
5/30 - 6/05	24,100
6/06 - 6/12	29,300
6/13 - 6/19	27,700
6/20 - 6/26	25,100
6/27 - 7/3	22,400
7/4 - 7/10	22,700
7/11 - 7/17	25,600
7/18 - 7/24	12,300
7/25 - 7/31	13,700
8/1 - 8/7	11,400
8/8 - 8/14	1,000

The quantities shown in Table 3 were estimated by determining a volume moved by scraper load counts and multiplying this volume by 2/3. The total of the volumes shown in Table 2 is 240,000 cubic yards, which corresponds to a load count volume of 360,000 cubic yards. The actual surveyed volume turned out to be 288,766 cubic yards. Therefore, the actual ratio of in place volume to load count volume was 0.80.

The volume of earth moved was pretty steady from week to week up until the week of 7/18. At that time, the fill had progressed to a point where the top of embankment was too narrow to allow two way traffic which slowed the process from there on. It was at this time that Montgomery began spreading cover soil over areas which had been finish-graded. Using 2 to 3 scrapers, the cover soil was rehandled and placed at a rate of between 2000 and 3500 cubic yards per day.

Cover soil was stockpiled in 4 different locations. The main location was on the northwest end of the project. The volume of this pile was about 38,000 cubic yards. The other piles contained about 2,700 collectively. The reason for the smaller piles was to decrease haul distance. Each pile was surveyed and the volume was calculated and mutually agreed upon by the Contractor and Engineer by signing a Yardage Agreement Form.

Two additional seeps were encountered in the course of cover soil stripping and excavation. One of the seeps (upper seep) was encountered at the upper end of the

project, about 100 feet west of the Section corner (approx. baseline station 12+00, 600 feet left). While stripping cover soil in this area, Montgomery's dozer got stuck in the mud. It was determined that, because the exact location and extent of the seep was unknown, mitigation of the problem would wait until excavation could be completed in the area. The second seep (lower seep) was encountered during excavation and fill placement at the lower end of the project at approximate baseline station 14+00, 80 feet right. The seep was apparent at the time the toe drain was being installed and an attempt was made to intercept the seep by extending the end of the toe drain about 50 feet farther north. Unfortunately, the toe drain was not deep enough to intercept the water. The Contractor constructed a small channel to route the water away from work areas and the flow decreased but remained steady throughout the summer. The decision was made to wait until excavation was complete in this area so that the exact location of the seep would be better defined and an interceptor drain could be precisely located.

The toe drain discharge pipe was broken on June 8 near the lower end by dirt hauling equipment due to small amount of cover over the pipe (1.5 - 2.0').

A second rain delay occurred on June 16 but Montgomery worked on the following day (Friday) to make up for the missed day.

A staking error was discovered on June 29 at baseline station 14+00 to 15+33. The error resulted in the need to cut about 3 to 4 feet out of a portion of constructed fill in this area. The quantity involved was 2,366 cubic yards. Shumaker agreed to remove and replace the material at the contract unit price of \$1.42 per cubic yard. Department of State Lands agreed to split the cost with TD&H.

The toe drain discharge pipe was broken again on July 5 by a scraper. The break occurred at the change in ground slope. Repair required a change in the pipe grade and ground surface at this location.

A third rainout occurred on July 6. Contractors worked Friday and Saturday that week to make up time.

A surface crack and small landslide was noticed in the westerly portion of the project on July 25, 1994. A resident in the area had called the office of TD&H to express concern over their safety. The crack was located in an area of cut at approximately 100 feet left of baseline stations 16+00 to 19+75. The crack was inspected by the project manager and geotechnical engineer. It was discovered that this was a localized phenomenon caused by removal of material at the toe of slope and the presence of a slick clay layer approximately 3 feet below ground surface at the crack location. Upon further evaluation, it was determined to remedy the slide and prevent future movement by cutting keys through the upper end of the slide (at the crack) and midway down the slide. The keys were constructed by excavating about 6 feet below ground surface, through the thin clay layer, and backfilling and recompacting the excavated area. Montgomery

constructed the keys on August 2 and 3. Payment for the work was made on a time and materials basis. The total cost of the repair amounted to \$4,195.00. Further movement has not occurred to date and is not expected.

A second potential problem became apparent at about the same time that the crack appeared. This involved a large sandstone boulder at the southeast portion of the project which appeared poised to break off and fall down the slope towards 4th West Hill Drive at some point in the future. The boulder is part of the exposed sandstone outcrop facing 4th West Hill Drive. It is located at about baseline station 1+00. After examining the situation, DSL and TD&H agreed that a bench was needed below the boulder. The Contractor was directed to cut a bench into the hillside below the boulder to accomplish this. The bench is approximately 15 to 20 feet wide, 100 feet in length, and slopes towards the boulder. Payment for this additional work was included in the excavation/embankment quantity and payment.

An on-site construction meeting was held on August 2. The main topic of discussion was a time extension to complete the work. Montgomery felt that they had reached the design quantity of 240,000 cubic yards by July 16 and stated that they would need an additional 6 weeks to complete the excavation/embankment, cover soil spreading and finish grading. Their feeling was that the final quantity would exceed 320,000 cubic yards. The time extension of 42 calendar days was granted, which put the revised completion date at September 25, 1994.

Shumaker was directed to construct the Upper and Lower Seep Interceptor drains (see As-Built Drawings) on July 26. The estimated quantities for the work were 311 feet of 4" slotted drain pipe with drain rock and 397 feet of 6" discharge pipe. The intention was to pay for them at the bid unit price for 4" CPE Slotted Drain Pipe (\$10/ft) and 6" CPE Discharge Pipe (\$8/ft). However, Shumaker stated that these were beyond the scope of their work, that the trenching for these would be more substantial, that they were losing money on the drain work at the bid unit prices and that they could not do the work for less than \$18.00 per lineal foot for the 4" CPE slotted drain pipe. They agreed to do the 6" CPE Discharge Pipe for \$8 per lineal foot. In an effort to reduce the cost, estimates from 4 other Contractors were obtained for the work. The prices were all greater than \$18/ft, so Shumaker was given the work. They began work on the upper seep interceptor on August 26 and completed installation of both the upper and lower interceptors on September 1.

During the first week of September, a resident on the north side of Lower Sun River Bridge Road expressed concern over sediment and increased runoff reaching the 15 inch diameter culvert located at the northwest corner of the project which discharges onto his property. The culvert was found to have a fiberglass plug on the north end. Although the project was not apparently causing any sediment buildup at the culvert, nor was the drainage system designed to increase runoff at this location, the decision was made to pursue construction of a ditch which would route flows past the culvert and discharge in

the main coulee located to the northwest. An excavation permit was obtained from Cascade County and Shumaker was directed to construct the ditch which involved plugging the existing culvert with concrete and grading approximately 760 feet of V-ditch along the County Road. The cost of the additional work was \$1400.00 and Shumaker was granted an additional 7 days to perform the work, which put the revised completion date at October 1, 1994. Shumaker began and completed the work (except for revegetation) October 1 using 1 patrol, 1 bobcat, and a pickup.

The final survey was started after placement of cover soil on September 8 and completed on about September 15. The survey was conducted using a Lietz 3 total station with electronic field book. The survey data was downloaded into a computer and, using Softdesk computer program, a digital terrain model (DTM) and topographic map were generated. Using the Softdesk Earthworks program, the pre-reclamation DTM and final DTM were compared to determine the volume difference between the two surfaces. Using this program, three different methods were used to compute the volume: TIN method, which compares the original and final terrain model surfaces; the Grid Method, in which a 25 foot grid is overlaid on the site and the elevations at each grid node are compared; and the average end area method. The average of the results of the three methods was used to come up with a final excavation volume of 284,000 cubic yards. The calculated fill volume was about 225,000 cubic yards. Comparing this to the excavation volume of 284,000 cubic yards results in a shrink factor of about 21%. An additional amount of 4,766 cubic yards was added to this value to account for the 2,366 cy of overplaced material caused by the staking error and 2,400 cy of material stockpiled by United Materials at the top of the hill midway through the project. This resulted in a total excavation/embankment quantity of **288,766 cubic yards**, which was used in the final pay estimate.

3.3.3 Revegetation

The revegetation subcontractor for the project was Prairie Hydroseeding from Havre, MT. After discussions with DSL, Prairie submitted a letter stating that they would perform the seeding, fertilizing and mulching as soon as cover soil spreading was complete, which would be outside of the dates specified in the bid documents (after October 15). Prairie guaranteed the revegetation with the earlier seeding dates. This allowed the Contractor to eliminate Summer Erosion Control procedures required by the specifications if the grading is completed prior to October 15.

Prairie started work on August 30 by disking the cover soil on the lower parts of the project. Equipment on site included the following:

- 1 - hydroseeding truck;
- 2 - tractors;
- 1 - disk;
- 1 - harrow;

- 1 - crimper;
- 1 - straw blower;
- 1 - drill seeder;
- 1 - CAT Rubber Track Tractor; and
- 1 - flatbed truck.

The hydroseeding truck was used to spray tackifier over mulched areas and spray hydromulch over areas not accessible to the straw blower or crimper. The tractors were used to pull the harrow, disk, crimper and drill seeder. The straw blower was mounted on a trailer and pulled behind the flatbed truck, which carried the bales of straw.

On September 2, they started broadcast seeding and fertilizing and installing erosion control blanket on the 2H:1V slope area specified on the drawings. This work was completed on September 6.

They began drill seeding and applying mulch on the lower portions of the project on September 6. Some areas next to the county road were too soft for the drill seeder. These areas were broadcast seeded and fertilized, with straw mulch applied by hand and tacked in with the crimper. They completed the lower, flatter areas of the project prior to proceeding up the slope. Tackifier was sprayed onto the mulch after the mulch was crimped in. Some of the areas of 3H:1V slope were not accessible by their equipment. The tractors were not stable enough to pull the drill seeder or crimper across the slope without tipping over. The rubber track tractor worked for about a day but then lost its tracks. Areas that could not be reached were mulched and tackified using the hydroseeder truck. A few areas that could not be reached with the drill seeder were either broadcast or hydroseeded.

Prairie completed most of the revegetation work by September 20, at which time they pulled off the job with plans to return after October 15 to plant the seedlings.

No work was conducted on the project between October 1 and October 19, when Prairie returned to complete the revegetation. Between 10/19 and 10/21, they planted 397 seedlings, and hydroseeded and mulched bare spots and the Ditch "A" extension completed by Shumaker on October 1. The species of seedlings used were changed from the bid documents and included an equal mixture of the following: Green Ash; Silver Leaf Buffalo Berry; Box Elder; and Skunk Brush Sumac. The reason the species were changed was that the specified plants were acclimated to wet conditions and it was felt that a dry species would be more suitable.

Due to wet conditions, they could not reach the haul road at the west end of the project to finish hydromulching the disturbed areas. These areas had been seeded and fertilized earlier in the project. Prairie returned to the job on November 10 to hydromulch the haul road. This completed the project construction.

3.4 Project Acceptance and Completion

A meeting was held on September 27, 1994 in the office of TD&H. The meeting was requested by Montgomery Construction Company regarding their dispute of the final earthwork volume. In attendance were: John Montgomery and Ken Burnham from Montgomery Construction, Jack Yates from DSL, Tim Ranf, Jack Holland, and Gary Franklin from TD&H. Shumaker did not have a representative at the meeting. Montgomery's claim is that they were shorted 40,720 cubic yards (cover soil quantity) that they felt should have been included in the excavation/embankment quantity and paid for at the bid unit price of \$1.42 per cubic yard (\$57,822). They claimed that they were told in the preconstruction conference that excavation of cover soil would be paid for in this manner and, furthermore, that the specifications indicate this to be the case. However, the position of TD&H and DSL was that the cost of cover soil excavation was to have been included in the unit price for excavation/embankment and that no separate measurement and payment would be made for this item. While it was conceded that the cover soil quantity is not accounted for in the excavation/embankment quantity, the issue over payment was not resolved. Section (E)4 - Cover Soil Rehandling (Pay Item #3) - Measurement and Payment reads as follows:

No separate payment will be made for excavation and haul to the stockpile. Costs to excavate and haul cover soil to the stockpile shall be included in the contract unit price for "Excavation/Embankment".

Although the specifications provide a formal means for claims, nothing in writing was provided regarding the dispute until October 27, when Shumaker sent a letter to DSL requesting that Montgomery be allowed to deal directly with DSL regarding this issue. There were still no specifics regarding the dispute provided in writing, however. Because, DSL had no Contract with Montgomery, Shumaker's request was denied.

A final inspection was conducted by Jack Yates and Tim Ranf on November 15, 1994. The inspection revealed no significant problems with the reclamation and the work was considered acceptable to both Engineer and Owner. The "Certificate of Substantial Completion", the "Certificate of Acceptance", quantity reconciliation and final pay estimate were signed by Engineer and Contractor and submitted to DSL on November 15. Shumaker submitted their Contractor's "Certificate of Completion" and "Affidavit on Behalf of Contractor" to DSL on November 14. However, they modified the Affidavit with an additional statement saying that they release the Owner of all claims *except for subcontractor claim concerning measurement and payment of bid item 2 and retainage*. DSL would not accept the modified Affidavit and, at the time of this report, the issue had not been resolved and the Contractor had not been paid the retainage, which amounted to about \$65,000.

4.0 COST SUMMARY

4.1 Summary of Pay Items

Table 4 shows the estimated and final quantities construction on the project. Some variation in quantities occurred, as is normal on any construction project.

TABLE 4: QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	EST. QUANTITY/	ACTUAL QUANTITY/	UNIT	QUANTITY CHANGE	BID UNIT PRICE	PRICE CHANGE
1.	Mobilization	1	1	L.S.	0	\$7,700.00	\$0.00
2.	Excavation/Embankment	240,000	288,766	C.Y.	48,766	\$1.42	\$69,247.72
3.	Cover Soil Rehandling	42,000	40,720	C.Y.	(1,280)	\$1.25	(\$1,600.00)
4.	Drainage Gravel, 6" minus	10,000	8,275	C.Y.	(1,725)	\$5.91	(\$10,194.75)
9.	Subdrain:						
	6" CPE Slotted Drain Pipe	739	789	L.F.	50	\$20.00	\$1,000.00
	6" CPE Discharge Pipe	1,166	1,528	L.F.	362	\$8.00	\$2,896.00
	4" CPE Slotted Drain Pipe	396	307	L.F.	(89)	\$10.00	(\$890.00)
9.	Riprap, 12" Minus	1,047	1,051	C.Y.	0	\$35.00	\$140.00
7.	18" RCP Culvert	32	32	L.F.	0	\$45.00	\$0.00
3.	Seeding & Fertilizing	39	47	Acres	8	\$175.00	\$1,400.00
9.	Erosion Control Mat	3,400	4,507	S.Y.	1,107	\$2.00	\$2,214.00
10.	Mulching	38.3	46.0	Acres	7.7	\$175.00	\$1,347.50
11.	Plantings	400	397	EA.	(3)	\$15.00	(\$45.00)
12.	Fencing, Type F-4(M)	5680	5,583	L.F.	(97)	\$1.40	(\$135.80)
13.	Hinged Metal Gate	1	0	EA.	0	\$200.00	\$0.00
14.	Straw Bales	450	136	EA.	(314)	\$5.00	(\$1,570.00)
15.	Silt Fence	1800	0	L.F.	(1,800)	\$2.00	(\$3,600.00)
ADDITIONS							
Change Order No. 1:							
	Stormwater Discharge Permit Fee	1	1	L.S.	0	\$400.00	\$0.00
	Tackifier Application	39	44	Acres	0	\$358.80	\$1,794.00
	Crack/Slide Repair	1	1	L.S.	0	\$4,195.00	\$0.00
	Lateral Drains	311	275	L.F.	-36	\$10.00	(\$648.00)
Change Order No. 2:							
	Ditch "A" Extension	1	1	L.S.	0	\$1,400.00	\$0.00
	SUBTOTAL DECREASES:						(\$18,683.55)
	SUBTOTAL INCREASES:						\$80,039.22
	NET INCREASE (Change Order No. 3):						\$61,355.67
	Contract Amount with Change Order Numbers 1 and 2:						\$592,168.70
	TOTAL CONTRACT AMOUNT						\$653,524.37

The greatest variation occurred for bid item 2 - Excavation/Embankment, where the actual

quantity was 48,766 cubic yards greater than estimated quantity. This resulted in an increase of about \$69,000 over the Contract Amount. Part of the reason for this change was the result of the City of Great Falls removal of 11,000 cubic yards of material from their sand pit between the time design was completed and construction started. The other reason for the change was the shrink factor used to calculate the required excavation quantity in design. A factor of 15% was used in design. The actual shrink factor turned out to be about 21%, resulting in the need for more excavation to meet the fill requirements.

Other items with significant changes in quantity included:

- Bid item 4 - Drainage Gravel, 6" minus - A decrease of 1,725 cubic yards from bid quantity. Because some of the areas shown on the plans as needing the drainage gravel were too steep to place the material, there was less required.
- Bid Item 5(b) - 6" CPE Discharge Pipe. An additional 362 feet of pipe was needed for interception of seepage encountered during construction.
- Bid Items 8 & 10 - Seeding & Fertilizing and Mulching. The total area for these items increased by 8 acres. The reason for this increase was that there were areas not accounted for in the bid quantity which included access and haul roads, a much larger area for the main cover soil stockpile west of the project and additional area required for revegetation of the Ditch "A" extension at the northwest corner of the project.
- Bid Item 9 - Erosion Control Mat. Additional mat was required because variation in grading resulted in more area of 2H:1V slope.
- Bid Item 14 - Straw Bales. The Contractor was able to line bales up along just two sides of the cover soil stockpile because of the topography. The bid estimate was based on a line of bales all the way around the cover soil stockpile.
- Bid Item 15 - Silt Fence. The Contractor had the option of using silt fence in lieu of straw bales. They elected to use bales so the silt fence was not used.

Other items that varied were caused by adjustments in the field to fit the conditions encountered.

Three change orders were necessary for additional work on the project. The first change order included the cost for a stormwater discharge permit fee, tackifier application, the crack/slide area repair and installation of interceptor drains for seeps encountered during construction. The second change order was necessary to construct the extension of Ditch "A" along Lower Sun River Bridge Road at the northwest project corner. The third change order was necessary to reconcile the quantities at the end of project. The total cost of Change Orders 1 and 2 was \$28,095.24. The cost of Change Order 3 was \$61,355.67 which represents the net increase in construction cost caused by changes in quantities.

4.2 Summary of Costs

4.2.1 Construction Costs

A list of project construction costs is shown in Table 5. This table shows the difference between the Engineer's Estimate, the Bid Amount and the Actual Construction Cost. The engineer's estimate for the project was \$699,474.00; the bid amount was \$566,582.50; and the actual construction cost was \$653,524.37 (includes all change orders).

This table also shows the percentage of construction cost for each bid item. At a cost of \$410,047.72, the **excavation/embankment** represented **62.7%** of the total construction cost. Other categories and their corresponding percentage of cost are listed below.

- **Cover Soil Rehandling** amounted to **7.8%** of the total construction cost.
- **Subdrainage**, which includes the drainage gravel, subdrain, and interceptor drains amounted to **13.1%** of the construction cost.
- **Revegetation and erosion control**, which includes riprap, seeding & fertilizing, erosion control mat, mulching, straw bales, and tackifier application, amounted to **12%** of the construction cost.

Other items, including the culvert, Ditch "A" extension, plantings, fencing & gates, and the stormwater discharge permit fee, make up the remaining **4.4%** of construction cost.

4.2.2 Engineering Costs

The engineering costs for this project amounted to about \$118,000 for design and construction management. The actual design cost for engineering was \$49,555.00 which is slightly under the Contract amount of \$52,117.44. The design fee included TD&H costs and those of their subcontractor, NTL Engineering & Geoscience, Inc., who performed the geotechnical investigation. NTL's costs were about \$16,160.

The costs for construction management were originally estimated at \$48,946.30. However, this was based on a 90 day construction period. With an additional 49 days granted to the Contractor the engineering contract was adjusted by \$15,000 to cover the costs of the additional inspection and administration. The project continued into November and additional costs were incurred because of the additional time and the work involved developing and coordinating the conceptual park plan and the tree planting plan. The final cost for construction management was about \$68,000.00

TABLE 5: CONSTRUCTION COST EVALUATION

ITEM NO.	DESCRIPTION	EST. QUANTITY/ UNIT	ACTUAL QUANTITY/ UNIT	EST. UNIT PRICE	BID UNIT PRICE	ESTIMATED AMOUNT	BID AMOUNT	ACTUAL AMOUNT	PERCENT OF CONST. COST
1.	Mobilization	1 L.S.	1 L.S.	\$10,000.00	\$7,700.00	\$10,000.00	\$7,700.00	\$7,700.00	1.2%
2.	Excavation/Embankment	240,000 C.Y.	288,766 C.Y.	\$1.50	\$1.42	\$360,000.00	\$340,800.00	\$410,047.72	62.7%
3.	Cover Soil Rehandling	42,000 C.Y.	40,720 C.Y.	\$1.50	\$1.25	\$63,000.00	\$52,500.00	\$50,900.00	7.8%
4.	Drainage Gravel, 6" minus	10,000 C.Y.	8,275 C.Y.	\$9.00	\$5.91	\$90,000.00	\$59,100.00	\$48,905.25	7.5%
5.	Subdrain: 6" CPE Slotted Drain Pipe	739 L.F.	789 L.F.	\$35.00	\$20.00	\$25,865.00	\$14,780.00	\$15,780.00	2.4%
	6" CPE Discharge Pipe	1,166 L.F.	1,528 L.F.	\$12.00	\$8.00	\$13,992.00	\$9,328.00	\$12,224.00	1.9%
	4" CPE Slotted Drain Pipe	396 L.F.	307 L.F.	\$18.00	\$10.00	\$7,128.00	\$3,960.00	\$3,070.00	0.5%
6.	Riprap, 12" Minus	1,047 C.Y.	1,051 C.Y.	\$45.00	\$35.00	\$47,115.00	\$36,645.00	\$36,785.00	5.6%
7.	18" RCP Culvert	32 L.F.	32 L.F.	\$32.00	\$45.00	\$1,024.00	\$1,440.00	\$1,440.00	0.2%
8.	Seeding & Fertilizing	39 Acres	47.0 Acres	\$340.00	\$175.00	\$13,260.00	\$6,825.00	\$8,225.00	1.3%
9.	Erosion Control Mat	3,400 S.Y.	4,507 S.Y.	\$1.50	\$2.00	\$5,100.00	\$6,800.00	\$9,014.00	1.4%
10.	Mulching	38.3 Acres	46.0 Acres	\$1,000.00	\$175.00	\$38,300.00	\$6,702.50	\$8,050.00	1.2%
11.	Plantings	400 EA.	397 EA.	\$10.00	\$15.00	\$4,000.00	\$6,000.00	\$5,955.00	0.9%
12.	Fencing, Type F-4(M)	5680 L.F.	5,583 L.F.	\$3.00	\$1.40	\$17,040.00	\$7,952.00	\$7,816.20	1.2%
13.	Hinged Metal Gate	1 EA.	1 EA.	\$500.00	\$200.00	\$500.00	\$200.00	\$200.00	0.03%
14.	Straw Bales	450 EA.	136 EA.	\$1.00	\$5.00	\$450.00	\$2,250.00	\$680.00	0.1%
15.	Silt Fence	1800 L.F.	0 L.F.	\$1.50	\$2.00	\$2,700.00	\$3,600.00	\$0.00	0.0%
TOTAL ESTIMATED CONSTRUCTION COST						\$699,474.00	\$566,582.50	\$626,792.17	95.9%
ADDITIONS									
Change Order No. 1:									
	Stormwater Discharge Permit Fee							\$400.00	0.1%
	Tackifier Application	39 Acres	44 Acres		\$358.80	\$13,993.20		\$15,787.20	2.4%
	Crack/Slide Repair							\$4,195.00	0.6%
	Lateral Drains	311 L.F.	275 L.F.		\$18.00	\$5,598.00		\$4,950.00	0.8%
Total, Change Order No. 1								\$25,332.20	3.9%
Change Order No. 2:									
	Ditch "A" Extension							\$1,400.00	0.2%
TOTAL ADDITIONS								\$26,732.20	4.1%
TOTAL ACTUAL COST								\$653,524.37	100.0%

4.2.3 Total Costs

The total project costs are summarized in Table 6. The cost of engineering and construction was \$771,079. The total cost for engineering amounted to \$117,555 which is 18% of the construction cost and 15.2% of the total project cost.

TABLE 6: PROJECT COST SUMMARY

PHASE	COST	PERCENT OF CONSTRUCTION COST	PERCENT OF TOTAL COST
<i>ENGINEERING</i>			
DESIGN	\$49,555.00	7.6%	6.4%
CONSTRUCTION MANAGEMENT	\$68,000.00	10.4%	8.8%
TOTAL ENGINEERING COST	\$117,555.00	18.0%	15.2%
<i>CONSTRUCTION</i>			
TOTAL CONSTRUCTION COST	\$653,524.37		84.8%
TOTAL PROJECT COST	\$771,079.37		100.0%

5.0 PROJECT SUMMARY

5.1 Site Conditions After Completion

As-built drawings are included in Attachment 6. The site grading and drainage features closely match the design drawings. The drainage and subdrainage features appeared to be working well. There were several minor seeps evident following completion of the work. Two seeps are located near the west end of the project, above the mid-slope bench. One seep is located on the lower end of the project near the toe of slope and southeast of the lower interceptor drain.

The revegetation work was satisfactory, although the subcontractor in charge of the work did not have the equipment necessary to work on the slopes. Consequently, some of the areas which were to have received crimped-in straw mulch, got hydromulched instead. With wet conditions in October, grass was growing in some areas at the low end of the project, adjacent to Lower Sun River Bridge Road.

5.2 Comments and Suggestions

The following are suggestions for consideration during design and construction on future projects.

- Need to include vehicle/equipment access provisions in design to alleviate access problems during construction. For example:
 - Bench width should be at least 16 - 20 feet;
 - Benches should be located along the slope at 150 - 200 foot intervals. The benches should be used in place of intermediate ditches. This would allow easier access for revegetation crews.
- For ditch along roadways, a concrete lining would work better than riprap. For this project, the riprap used was mostly over-sized which makes the ditch really stand out. A concrete lined ditch would fit in better along the roadway and could be made somewhat smaller.
- The measurement and payment for excavation/embankment should include an additional quantity for cover soil based on the volume measured in stockpiles. This would eliminate confusion and disputes arising from cover soil payment.
- The Contractor had difficulty drill seeding and crimping mulch on the 3:1 slopes because his equipment was not suited for this steep of slope. The biggest concern was that the mulch did not get crimped in on the slopes which is where it is most critical. The tackifier was definitely a good addition to this project since it holds the mulch to the slopes. While a more experienced contractor might have suitable equipment to drill seed and crimp on these slopes, in future projects it may be worthwhile to allow a specific option of a heavy application of seed, fertilizer, mulch and tackifier with a hydroseeder in lieu of drill seeding and mulch crimping.
- The note in the special provisions under summer erosion control (SP-16) which states that "An acceptable alternative to summer mulch is to delay topsoiling until October 1. If topsoiling is delayed....." should be removed for a project of this size and locale to avoid any arguments.
- Our earthwork calculations assumed a shrink factor of 15%. The actual shrink factor was about 21%. We would recommend against using a shrink factor of less than 20% for any project.
- The culvert length at the site entrance was only 32 feet. I would recommend a minimum length of 50 feet to allow a wider access road and less steep side slopes.

- The estimated quantity in the bid for seed, fertilizer, mulch and tackifier needs to account for the cover soil stockpile area and any additional disturbed areas for road access. For this project, the bid estimate was 39 acres, in which were included 2 acres for stockpile areas and disturbed areas. The actual quantity was 48 acres, some of which could have been anticipated in design.
- Existing trees and shrubs on this project were disposed of in Shumakers landfill. A more ecologically sound approach would be to grind them and use for mulch. Of course, this would only be done if clearly specified in the specifications. For a project of this magnitude and number of trees and shrubs to dispose of, this would be worthwhile.
- Change the measurement method for drainage gravel and riprap from cubic yards to tons and use scale tickets as measurement. Trying to measure the in-place volumes of these items was difficult and, in some cases, not very accurate.

5.3 Maintenance Follow-up

The site was inspected on November 30 to determine site conditions. Some sleds had been using the hill with the recent snow. There was some scraping of mulch that had occurred but nothing that would significantly affect the revegetation. The rest of the site was in good conditions. More grass was growing in wet areas. All of the interceptor drain pipes had some flow and none of the minor seeps appeared to be causing any stability or erosion problems. Quite a bit of sedimentation had occurred at the discharge end of the 18" entrance culvert. Sediment off of 4th West Hill Drive and Lower Sun River Bridge Road contributed to the problem. Sediment and erosion at this location will continue to be a problem because of the off-site runoff at this intersection.

ATTACHMENT 1: BID TABULATIONS

GREAT FALLS GRAVEL PROJECT
CASCADE COUNTY, MONTANA

DSL/AMRB 93-002
March 24, 1994

BID TABULATIONS				ENGINEER'S ESTIMATE		SHUMAKER TRUCKING & EXCAVATING		MONTGOMERY CONSTRUCTION		A.M. WELLES, INC.	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
1.	1	LS	Mobilization	10000.00	10,000.00	7700.00	7,700.00	69000.00	69,000.00	150,000.00	150,000.00
2.	240,000	CY	Excavation/Embankment	1.50	360,000.00	1.42	340,800.00	.99	237,600.00	2.20	528,000.00
3.	42,000	CY	Cover Soil Rehandling	1.50	63,000.00	1.25	52,500.00	.75	31,500.00	2.25	94,500.00
4.	10,000	CY	Drainage Gravel, 6" minus	9.00	90,000.00	5.91	59,100.00	15.50	155,000.00	11.00	110,000.00
5.	739	LF	Subdrain, 6" CPE Slotted Drain	35.00	25,865.00	20.00	14,780.00	6.50	4,803.50	28.00	20,692.00
5.	1,166	LF	6" CPE Discharge Pipe	12.00	13,992.00	8.00	9,328.00	5.00	5,830.00	28.00	32,648.00
5.	396	LF	4" CPE Slotted Drain Pipe	18.00	7,128.00	10.00	3,960.00	6.50	2,574.00	28.00	11,088.00
6.	1,047	CY	Riprap, 12" minus	45.00	47,115.00	35.00	36,645.00	30.00	31,410.00	37.50	39,262.50
7.	32	LF	18" RCP Culvert	32.00	1,024.00	45.00	1,440.00	30.00	960.00	67.00	2,144.00
8.	39	Acres	Seeding and Fertilizing	340.00	13,260.00	175.00	6,825.00	200.00	7,800.00	180.00	7,020.00
9.	3,400	SY	Erosion Control Mat	1.50	5,100.00	2.00	6,800.00	2.50	8,500.00	1.75	5,950.00
10.	38.3	Acres	Mulching	1000.00	38,300.00	175.00	6,702.50	300.00	11,490.00	900.00	34,470.00
11.	400	Ea.	Plantings	10.00	4,000.00	15.00	6,000.00	12.50	5,000.00	17.00	6,800.00
12.	5680	LF	Fencing, Type F-4(M)	3.00	17,040.00	1.40	7,952.00	1.00	5,680.00	1.35	7,668.00
13.	1	Ea	Hinged Metal Gate	500.00	500.00	200.00	200.00	100.00	100.00	200.00	200.00
14.	450	Ea	Straw Bales	1.00	450.00	5.00	2,250.00	10.00	4,500.00	6.00	2,700.00
15.	1800	LF	Silt Fence	1.50	2,700.00	2.00	3,600.00	3.00	5,400.00	2.00	3,600.00
THIS ROW CONTAINS FORMULAS FOR ADDING UP THE COLUMNS -- INSERT ROWS ABOVE THIS ONE IF YOU NEED MORE THAN 7 ITEMS					699,474.00		566,582.50		587,147.50		1,056,742.50

GREAT FALLS GRAVEL PROJECT
CASCADE COUNTY, MONTANA

DSL/AMRB 93-002
March 24, 1994

BID TABULATIONS				ENGINEER'S ESTIMATE		EMPIRE SAND & GRAVEL		S K CONSTRUCTION		UNITED MINERALS OF GREAT FALLS	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
1.	1	LS	Mobilization	10000.00	10,000.00	115000.00	115,000.00	67000.00	67,000.00	14000.00	14,000.00
2.	240,000	CY	Excavation/Embankment	1.50	360,000.00	2.00	480,000.00	3.22	772,800.00	3.17	760,800.00
3.	42,000	CY	Cover Soil Rehandling	1.50	63,000.00	2.00	84,000.00	1.92	80,640.00	.05	2,100.00
4.	10,000	CY	Drainage Gravel, 6" minus	9.00	90,000.00	25.00	250,000.00	19.00	190,000.00	16.00	160,000.00
5.	739	LF	Subdrain, 6" CPE Slotted Drain	35.00	25,865.00	25.00	18,475.00	17.00	12,563.00	24.00	17,736.00
5.	1,166	LF	6" CPE Discharge Pipe	12.00	13,992.00	25.00	29,150.00	15.00	17,490.00	9.00	10,494.00
5.	396	LF	4" CPE Slotted Drain Pipe	18.00	7,128.00	22.00	8,712.00	16.00	6,336.00	10.00	3,960.00
6.	1,047	CY	Riprap, 12" minus	45.00	47,115.00	50.00	52,350.00	49.00	51,303.00	44.00	46,068.00
7.	32	LF	18" RCP Culvert	32.00	1,024.00	65.00	2,080.00	50.00	1,600.00	50.00	1,600.00
8.	39	Acres	Seeding and Fertilizing	340.00	13,260.00	150.00	5,850.00	160.00	6,240.00	270.00	10,530.00
9.	3,400	SY	Erosion Control Mat	1.50	5,100.00	1.70	5,780.00	3.00	10,200.00	1.80	6,120.00
10.	38.3	Acres	Mulching	1000.00	38,300.00	150.00	5,745.00	800.00	30,640.00	480.00	18,384.00
11.	400	Ea.	Plantings	10.00	4,000.00	4.00	1,600.00	15.03	6,012.00	16.00	6,400.00
12.	5680	LF	Fencing, Type F-4(M)	3.00	17,040.00	2.60	14,768.00	20.00	27,264.00	2.00	11,360.00
13.	1	Ea	Hinged Metal Gate	500.00	500.00	250.00	250.00	600.00	900.00	350.00	350.00
13.	450	Ea	Straw Bales	1.00	450.00	2.00	900.00	20.00	9,000.00	2.00	3,150.00
15.	1800	LF	Silt Fence	1.50	2,700.00	2.00	3,600.00	5.00	9,000.00	4.00	7,200.00
THIS ROW CONTAINS FORMULAS FOR ADDING UP THE COLUMNS -- INSERT ROWS ABOVE THIS ONE IF YOU NEED MORE THAN 7 ITEMS					699,474.00		1,078,260.00		1,298,688.00		1,080,252.00

ATTACHMENT 2: CHANGE ORDERS

CHANGE ORDER

ORDER NO: 1 (REV.)

PROJECT TITLE: West Hill Sand & Gravel Pit Reclamation Project

MONTANA A/E or DSL-AMRB: 93-002

CONTRACT DATE: 4/18/94

OWNER: DSL-AMRB

CONTRACTOR: Shumaker Trucking & Excavating

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable).

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS.	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
4.	Stormwater Discharge Permit Fee					400.00	\$400.00
2.	Tackifier Application - 39 acres					358.80	\$13,993.20
3.	Crack/Slide Repair (Based on Time & Materials - See Attached)						\$4,195.00
4.	Add Lateral Drains, 311 L.F.					18.00	\$5,598.00
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							\$24,186.20
OVERHEAD & PROFIT @ ____ % INCLUDED IN ABOVE							
GRAND TOTAL - THIS CHANGE ORDER							\$24,186.20

Original Contract Price \$566,582.50

Current Contract Price Adjusted by Previous Change Order \$566,582.50

Cost this Change Order (+or-) \$ 24,186.20

New Contract Price including this Change Order \$590,768.70

The completion date as set forth in the Contract Documents shall be increased by 42 calendar days.

The date for completion of all work will be September 25, 1994.

Description and Justification for Change:

1. The Stormwater Discharge Permit Fee is not required in the original contract.
2. Additional Tackifier needed to prevent mulch from blowing.
3. Action required to stop slide over a clay lense.
4. Added drains needed to intercept seeps. The depth and size are not the same as in the bid.

Time Extension

Excavation/embankment quantity appears to be greater than bid quantity. One week was lost to rain. Some additional work has been authorized (seep & crack mitigation, bench at baseline Sta 1+00). Contractor has been working diligently to date and needs additional time to complete the work.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$24,186.20 (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$24,186.20 (100% of the Change Order amount).

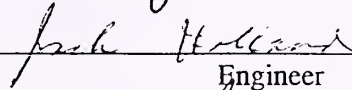
COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY

LORRIN A. DARBY, RESIDENT AGENT

VIGILANT INSURANCE COMPANY

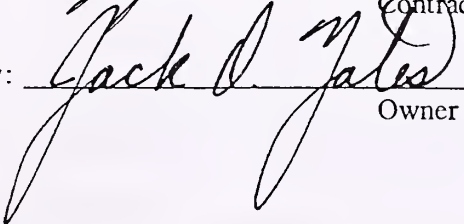
By: 
LORRIN A. DARBY Seal ATTORNEY-IN-FACT

Recommended by: 
Engineer

8/23/94
Date

Accepted by: 
Contractor

8/26/94
Date

Approved by:  DSL-AMRB
Owner

8/31/94
Date

WORK DIRECTIVE CHANGE

No. 1 (REV.)

PROJECT: West Hill Sand & Gravel Pit Reclamation Project

DATE OF ISSUANCE:

CONTRACTOR: Shumaker Trucking & Excavating

OWNER: DSL-AMRB

MONT A/E or DSL-AMRB: 93-002

CONTRACT FOR: West Hill Sand & Gravel Pit
Reclamation Project

ENGINEER: Thomas, Dean & Hoskins, Inc.

You are directed to proceed promptly with the following change(s):

Description:

1. Add bench at baseline Station 1+00
2. Add lateral drains and discharge piping
3. Crack slide mitigation - excavate & recompact keys
4. Add tackifier application over mulch

Purpose of Work Directive Change:

1. Prevent boulder from rolling down slope
2. Intercept seeps
3. Repair crack & prevent future movement
4. Prevent blowing of mulch

Attachments: (list documents supporting change).

1. Detail for bench
2. Drawings 1 & 2 of 2
3. Detail for repair
(Previously Provided)

If a claim is made that the above change(s) have affected Contract Price or Contract Time, any claim for a Change Order based thereon will involve one of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

Method of determining change in Contract Time:

3 X Time and Materials

Contractor's Records

1&2 X Unit Prices

Engineer's Records

Cost Plus Fixed Fee

Other

4 X Other Estimate from Subcontractor

Estimated increase in Contract Price:

Estimated increase in Contract Time: 42 days.

\$ 27,104.20* If the change involves an increase, the estimated amount is not to be exceeded without further authorization.

If the change involves an increase, the estimated time is not to be exceeded without further authorization.

RECOMMENDED: 8/23/94

AUTHORIZE:

By _____

By Jack D. Yates DSL-AMRB

ACCEPTED: back Engineer

Owner

ACCEPTED: Jack Hollen
By: J. Carter 01/26/94
Contractor

*1. \$142.00 (100 CY @ \$1.42)

2. \$8,774.00 (311 LF @ \$18.00, 397 @ \$8.00)

3. \$4,195.00

4. \$13,993.20

CHANGE ORDER

ORDER NO: 2

PROJECT TITLE: West Hill Sand & Gravel Pit Reclamation Project

MONTANA A/E or DSL-AMRB: 93-002

CONTRACT DATE: 4/18/94

OWNER: DSL-AMRB

CONTRACTOR: Shumaker Trucking & Excavating

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable).

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS.	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
1.	Ditch "A" Extension - 760 L.F. of Ditch & Concrete Plug in Ex. 15" culvert					1,400.00	\$1,400.00
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							\$ 1,400.00
OVERHEAD & PROFIT @ ____ % INCLUDED IN ABOVE							
GRAND TOTAL - THIS CHANGE ORDER							\$ 1,400.00

Original Contract Price \$566,582.50

Current Contract Price Adjusted by Previous Change Order \$590,768.70

Cost this Change Order (+or-) \$ 1,400.00

New Contract Price including this Change Order \$591,168.70

CO-1

2 Rev. 7/90

The completion date as set forth in the Contract Documents shall be increased by 7 calendar days.

The date for completion of all work will be October 1, 1994.

Description and Justification for Change:

1. Improve drainage at Northwest end of the project.

Time Extension

Work not part of original contract. Contractor needs time to mobilize crew to job site.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$ 1,400.00 (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$ 1,400.00 (100% of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY

COGSWELL AGENCY

VIGILANT INSURANCE COMPANY

E.B. Cogswell
E.B. COGSWELL, RESIDENT AGENT

By: E.B. Cogswell
E.B. COGSWELL, Seal ATTORNEY-IN-FACT

Recommended by: Lin P. Hall
Engineer

10/17/94
Date

Accepted by: Thomas J. Zimmerman
Contractor

10-18-94
Date

Approved by: Jack D. Yates DSL-AMRB
Owner

10/19/94
Date

POWER OF ATTORNEY

Know all Men by these Presents, That the VIGILANT INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New York Corporation, has constituted and appointed, and does hereby constitute and appoint E. B. Cogswell, E. B. Cogswell, Jr., and Lorrin A. Darby of Great Falls, Montana-----

with its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as to any and all contracts, bonds or obligations given or executed in the course of its business, and consents for the release of retained percentages and/or estimates.

In Witness Whereof, the said VIGILANT INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Vice-President and Assistant Secretary and its corporate seal to be affixed this 19th day of November 19 92

Corporate Seal



VIGILANT INSURANCE COMPANY
By

George McClellan

Vice-President

Richard D. O'Connor

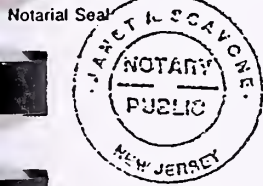
Assistant Secretary

STATE OF NEW JERSEY
County of Somerset

SS.

this 19th day of November 19 92, before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretary of the VIGILANT INSURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is Assistant Secretary of the VIGILANT INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of the By-Laws of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the Vice-President of said Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed by authority of said By-Laws and in deponent's presence.

Notarial Seal



Acknowledged and Sworn to before me
on the date above written.

Janet A. Scavone

JANET A. SCAVONE

Notary Public

Notary Public, State of New Jersey

No. 2966520

Commission Expires October 2, 1994

CERTIFICATION

STATE OF NEW JERSEY
County of Somerset

SS.

The undersigned, Assistant Secretary of the VIGILANT INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Directors on June 13, 1974 and most recently amended March 3, 1986 and that this By-Law is in full force and effect.

"ARTICLE XV

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Secretary, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, Vice Chairman, President, any Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

Further certify that said VIGILANT INSURANCE COMPANY is duly licensed to transact fidelity and surety business in the State of MONTANA, and is also duly licensed to become sole surety on bonds, undertakings, etc. permitted or required by the laws of the United States.

MONTANA

, and is also duly licensed

And I further certify that the foregoing Power of Attorney is now in full force and effect.

Given under my hand and the seal of said Company at Warren, N.J., this 18TH day of OCTOBER 19 94

Corporate Seal



Assistant Secretary

CHANGE ORDER

ORDER NO: 3

PROJECT TITLE: West Hill Sand & Gravel Pit Reclamation Project

MONTANA A/E or DSL-AMRB: 93-002

CONTRACT DATE: 4/18/94

OWNER: DSL-AMRB

CONTRACTOR: Shumaker Trucking & Excavating

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable).

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS.	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
1.	Quantity Reconciliation (see attached)						\$61,355.67
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							
OVERHEAD & PROFIT @ _____ % INCLUDED IN ABOVE							
GRAND TOTAL - THIS CHANGE ORDER							\$61,355.67

Original Contract Price	\$566,582.50
Current Contract Price Adjusted by Previous Change Order	\$592,168.70
Cost this Change Order (+or-)	\$ 61,355.67
New Contract Price including this Change Order	\$653,524.37

The completion date as set forth in the Contract Documents shall be unchanged from previous Change Order No. 2.

Description and Justification for Change:

1. Final Quantity/Adjustments from estimated Bid Quantities.

Time Extension

N/A

SURETY CONSENT

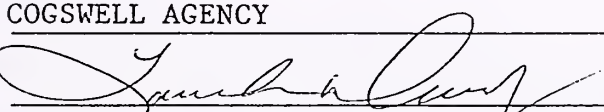
The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$ 61,335.67 (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$ 61,335.67 (100% of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY

COGSWELL AGENCY

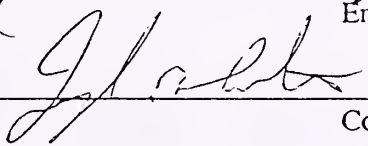
VIGILANT INSURANCE COMPANY


LORRIN A. DARBY, RESIDENT AGENT

By: 
LORRIN A. DARBY Seal ATTORNEY-IN-FACT

Recommended by: 
Engineer

11/15/94
Date

Accepted by: 
Contractor

11/15/94
Date

Approved by: _____
Owner

Date

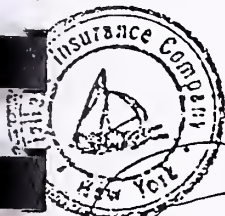
POWER OF ATTORNEY

Know all Men by these Presents, That the VIGILANT INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New York Corporation, has constituted and appointed, and does hereby constitute and appoint E. B. Cogswell, E. B. Cogswell, Jr., and Lorrin A. Darby of Great Falls, Montana-----

with its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as to any and all surety thereon or otherwise, bonds or obligations given or executed in the course of its business, and consents for the release of retained percentages and/or final estimates.

In Witness Whereof, the said VIGILANT INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Vice-President and Assistant Secretary and its corporate seal to be affixed this 19th day of November 19 92

Corporate Seal



Richard D. O'Connor
Assistant Secretary

VIGILANT INSURANCE COMPANY
By

George McClellan

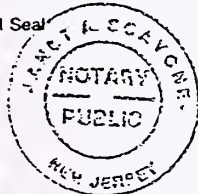
Vice-President

STATE OF NEW JERSEY
County of Somerset

SS.

this 19th day of November 19 92, before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretary of the VIGILANT INSURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is Assistant Secretary of the VIGILANT INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of the By-Laws of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the Vice-President of said Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed by authority of said Company and in deponent's presence.

Notarial Seal



STATE OF NEW JERSEY
County of Somerset

SS.

Acknowledged and Sworn to before me
on the date above written.

Janet A. Scavone
JANET A. SCAVONE Notary Public

Notary Public, State of New Jersey
No. 2966520

Commission Expires October 2, 1994

CERTIFICATION

I, the undersigned, Assistant Secretary of the VIGILANT INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Directors on June 13, 1974 and most recently amended March 3, 1986 and that this By-Law is in full force and effect.

"ARTICLE XV

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Secretary, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, Vice Chairman, President, any Vice President, any Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I further certify that said VIGILANT INSURANCE COMPANY is duly licensed to transact fidelity and surety business in the State of

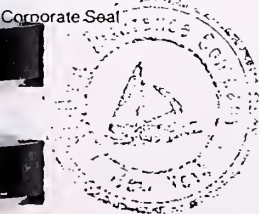
MONTANA

, and is also duly licensed

to become sole surety on bonds, undertakings, etc. permitted or required by the laws of the United States.

I further certify that the foregoing Power of Attorney is now in full force and effect.

Corporate Seal



15TH

day of NOVEMBER 19 94

Assistant Secretary

ABANDONED MINE RECLAMATION BUREAU
WEST HILL SAND & GRAVEL PIT RECLAMATION PROJECT
QUANTITY RECONCILIATION - CHANGE ORDER NUMBER 3
THOMAS, DEAN & HOSKINS, INC.

ITEM NO.	DESCRIPTION	EST. QUANTITY/ UNIT	ACTUAL QUANTITY/ UNIT	QUANTITY CHANGE	BID UNIT PRICE	PRICE CHANGE
1.	Mobilization	1 L.S.	1 L.S.	0	\$7,700.00	\$0.00
2.	Excavation/Embankment	240,000 C.Y.	288,766 C.Y.	48,766	\$1.42	\$69,247.72
3.	Cover Soil Rehandling	42,000 C.Y.	40,720 C.Y.	(1,280)	\$1.25	(\$1,600.00)
4.	Drainage Gravel, 6" minus	10,000 C.Y.	8,275 C.Y.	(1,725)	\$5.91	(\$10,194.75)
5.	Subdrain:					
	6" CPE Slotted Drain Pipe	739 L.F.	789 L.F.	50	\$20.00	\$1,000.00
	6" CPE Discharge Pipe	1,166 L.F.	1,528 L.F.	362	\$8.00	\$2,896.00
	4" CPE Slotted Drain Pipe	396 L.F.	307 L.F.	(89)	\$10.00	(\$890.00)
6.	Riprap, 12" Minus	1,047 C.Y.	1,051 C.Y.	4	\$35.00	\$140.00
7.	18" RCP Culvert	32 L.F.	32 L.F.	0	\$45.00	\$0.00
8.	Seeding & Fertilizing	39 Acres	47 Acres	8	\$175.00	\$1,400.00
9.	Erosion Control Mat	3,400 S.Y.	4,507 S.Y.	1,107	\$2.00	\$2,214.00
10.	Mulching	38.3 Acres	46.0 Acres	7.7	\$175.00	\$1,347.50
11.	Plantings	400 EA.	397 EA.	(3)	\$15.00	(\$45.00)
12.	Fencing, Type F-4(M)	5680 L.F.	5,583 L.F.	(97)	\$1.40	(\$135.80)
13.	Hinged Metal Gate	1 EA.	1 EA.	0	\$200.00	\$0.00
14.	Straw Bales	450 EA.	136 EA.	(314)	\$5.00	(\$1,570.00)
15.	Silt Fence	1800 L.F.	0 L.F.	(1,800)	\$2.00	(\$3,600.00)

ADDITIONS						
Change Order No. 1:						
	Stormwater Discharge Permit Fee	1 L.S.	1 L.S.	0	\$400.00	\$0.00
	Tackifier Application	39 Acres	44 Acres	5	\$358.80	\$1,794.00
	Crack/Slide Repair	1 L.S.	1 L.S.	0	\$4,195.00	\$0.00
	Lateral Drains	311 L.F.	275 L.F.	-36	\$18.00	(\$648.00)
Change Order No. 2:						
	Ditch "A" Extension	1 L.S.	1 L.S.	0	\$1,400.00	\$0.00

SUBTOTAL DECREASES: (\$18,683.55)

SUBTOTAL INCREASES: \$80,039.22

NET INCREASE: (Change Order Number 3) \$61,355.67

Contract Amount with Change Order Numbers 1 and 2: \$592,168.70

Contract Amount with Change Order Number 3:	\$653,524.37
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ATTACHMENT 3: PAYMENT REQUESTS

PAYMENT REQUEST NO. ONE (1)FROM 5/10/94 TO 6/9/94PROJECT TITLE: WEST HILL SAND & GRAVEL PIT RECLAMATION PROJECTLOCATION: GREAT FALLS, MT MONT A/E or DSL-AMRB: 93-002NAME OF CONTRACTOR: SHUMAKER TRUCKING & EXCAVATINGADDRESS: P. O. Box 1442, Great Falls, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract		\$ 566,582.50
Change Order No. _____	\$ _____	
Change Order No. _____	\$ _____	
Change Order No. _____	\$ _____	
Amount of Approved Change Order(s)		\$ 0
TOTAL CONTRACT AMOUNT		\$ 566,582.50

Pay Request No.	Amount of Request
One (1)	\$210,921.98

Total Contract Amount Completed to Date	\$ 236,725.00
Less Retainage (<u>10</u> %)	\$ 23,672.50
TOTAL AMOUNT EARNED TO DATE	\$ 213,052.50
Less Previous Payments	\$ 0
AMOUNT DUE THIS PAYMENT	\$ 213,052.50
Less 1% Tax	\$ 2,130.52
TOTAL DUE CONTRACTOR	\$ 210,921.98

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

APPROVED BY:

SHUMAKER TRUCKING & EXCAVATING
Contractor

MONTANA DEPT. OF STATE LANDS
Owner

By [Signature]
Date 6/15/94

By Jack D. Yates DSL-AMRB
Date 6/20/94

RECOMMENDED BY:

THOMAS, DEAN & HOSKINS, INC.
Engineer

By Jack Hollander
Date 6/15/94

RESP. CNTR.	30133	9400 15-01
OBJ. EXP.	2121	
APPROVAL	<u>[Signature]</u>	
DATE	6-20-94	

DATE: June 9, 1994
PAY ESTIMATE NO. One (1)
PAGE 1 OF 3

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

PROJECT: West Hill Sand & Gravel Reclamation Project

Amount complete to date.....\$ 236,725.00
Less Retained Percentage (10%).....\$ 23,672.50
SUBTOTAL.....\$ 213,052.50

Less Previous Payments:

	<u>CONTRACTOR</u>	<u>1% to State DEPT. OF REVENUE</u>	<u>TOTAL</u>
Estimate No. 1	_____	_____	_____
Estimate No. 2	_____	_____	_____
Estimate No. 3	_____	_____	_____
Estimate No. 4	_____	_____	_____
TOTALS:	_____	_____	\$ _____

AMOUNT DUE CONTRACTOR: \$ 213,052.50
Less 1% Payable to State
Dept. of Revenue: \$ 2,130.52
BALANCE: \$ 210,921.98

We hereby certify that the work for which payment is hereon requested has been performed in accordance with the plans and specifications.

CONTRACTOR: Shumaker Trucking

BY: _____

We hereby certify that the foregoing is a true and correct statement of the amount due the Contractor for construction, to date, of the above project, and payment for the same is hereby recommended.

ENGINEER: Thomas, Dean & Hoskins, Inc.

BY: _____

DATE: June 9, 1994
PAY ESTIMATE NO. One (1)
PAGE 2 OF 3

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

Item No.	Description	Bid Quantity	Quantity Completed	Unit Price	Value of Work Completed To Date
1.	Mobilization	Lump Sum	80%	7,700.00	6,160.00
2.	Excavation/Embankment	240,000 C.Y.	117,200	1.42	166,424.00
3.	Cover Soil Rehandling	42,000 C.Y.		1.25	
4.	Drainage Gravel, 6" minus	10,000 C.Y.	2,800	5.91	16,548.00
5.	Subdrain:				
	6" CPE Slotted Drain Pipe	739 L.F.	789	20.00	15,780.00
	6" CPE Discharge Pipe	1,166 L.F.	1016	8.00	8,128.00
	4" CPE Slotted Drain Pipe	396 L.F.	20	10.00	200.00
6.	Riprap, 12" minus	1,047 C.Y.	567	35.00	19,845.00
7.	18" RCP Culvert	32 L.F.	32	45.00	1,440.00
8.	Seeding & Fertilizing	39 Acres		175.00	
9.	Erosion Control Mat	3,400 S.Y.		2.00	
10.	Mulching	38.3 Acres		175.00	
11.	Plantings	400 Ea.		15.00	
12.	Fencing, Type F-4(M)	5680 L.F.	1,100	1.40	1,540.00
13.	Hinged Metal Gate	1 Ea.		200.00	
14.	Straw Bales	450 Ea.	132	5.00	660.00
15.	Silt Fence	1800 L.F.		2.00	
TOTAL					236,725.00

DATE: June 9, 1994
PAY ESTIMATE NO. One (1)
PAGE 3 OF 3

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

APPROVED ADDITIONS OR DEDUCTIONS:

TOTAL AMOUNT EARNED:	<u>\$ 236,725.00</u>

PAYMENT REQUEST NO. Two (2)

FROM 6/10/94 TO 7/9/94

PROJECT TITLE: WEST HILL SAND & GRAVEL PIT RECLAMATION PROJECT

LOCATION: GREAT FALLS, MT. MONT AVE or DSL-AMRB: 93-002

NAME OF CONTRACTOR: SHUMAKER TRUCKING & EXCAVATING

ADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract	\$ <u>566,582.50</u>
Change Order No. _____	\$ _____
Change Order No. _____	\$ _____
Change Order No. _____	\$ _____
Amount of Approved Change Order(s)	\$ <u>0</u>
TOTAL CONTRACT AMOUNT	\$ <u>566,582.50</u>

Pay Request No.	Amount of Request
One (1)	\$ 210,921.98
Two (2)	\$ 100,134.14

Total Contract Amount Completed to Date	\$ <u>349,109.00</u>
Less Retainage (<u>10</u> %)	\$ <u>34,910.90</u>
TOTAL AMOUNT EARNED TO DATE	\$ <u>314,198.10</u>
Less Previous Payments	\$ <u>213,052.50</u>
AMOUNT DUE THIS PAYMENT	\$ <u>101,145.60</u>
Less 1% Tax	\$ <u>1,011.46</u>
TOTAL DUE CONTRACTOR	\$ <u>100,134.14</u>

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

APPROVED BY:

SHUMAKER TRUCKING & EXCAVATING
Contractor

MONTANA DEPT. OF STATE LANDS
Owner

By [Signature]
Date 7/13/94

By [Signature] [Signature]
Date _____

RECOMMENDED BY:

THOMAS, DEAN & HOSKINS, INC.
Engineer

By [Signature]
Date 7/12/94

RESP. CNTR. <u>30133</u>	34507-0006
OSI. EXP. <u>2/21</u>	
APPROVAL <u>[Signature]</u>	
DATE <u>7-25-94</u>	

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

PROJECT: West Hill Sand & Gravel Reclamation Project

Amount complete to date.....\$ 349,109.00
Less Retained Percentage (10%).....\$ 34,910.90
SUBTOTAL.....\$ 314,198.10

Less Previous Payments:

	<u>CONTRACTOR</u>	1% to State <u>DEPT. OF</u> <u>REVENUE</u>	<u>TOTAL</u>	
Estimate No. 1	<u>210,921.98</u>	<u>2,130.52</u>	<u>213,052.90</u>	
Estimate No. 2	_____	_____	_____	
Estimate No. 3	_____	_____	_____	
Estimate No. 4	_____	_____	_____	
TOTALS:	<u>210,921.98</u>	<u>2,130.52</u>	<u>213,052.50</u>	\$ <u>213,052.50</u>

AMOUNT DUE CONTRACTOR: \$ 101,145.60

Less 1% Payable to State

Dept. of Revenue: \$ 1,011.46

BALANCE: \$ 100,134.14

We hereby certify that the work for which payment is hereon requested has been performed in accordance with the plans and specifications.

CONTRACTOR: Shumaker Trucking

BY: _____

We hereby certify that the foregoing is a true and correct statement of the amount due the Contractor for construction, to date, of the above project, and payment for the same is hereby recommended.

ENGINEER: Thomas, Dean & Hoskins, Inc.

BY: _____

DATE: July 9, 1994
PAY ESTIMATE NO. Two (2)
PAGE 2 OF 3

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

Item No.	Description	Bid Quantity	Quantity Completed	Unit Price	Value of Work Completed To Date
1.	Mobilization	Lump Sum	80%	7,700.00	6,160.00
2.	Excavation/Embankment	240,000 C.Y.	176,000	1.42	249,920.00
3.	Cover Soil Rehandling	42,000 C.Y.		1.25	-
4.	Drainage Gravel, 6" minus	10,000 C.Y.	6,600	5.91	39,006.00
5.	Subdrain:				
	6" CPE Slotted Drain Pipe	739 L.F.	789	20.00	15,780.00
	6" CPE Discharge Pipe	1,166 L.F.	1016	8.00	8,128.00
	4" CPE Slotted Drain Pipe	396 L.F.	110	10.00	1,100.00
	Riprap, 12" minus	1,047 C.Y.	725	35.00	25,375.00
7.	18" RCP Culvert	32 L.F.	32	45.00	1,440.00
8.	Seeding & Fertilizing	39 Acres		175.00	-
9.	Erosion Control Mat	3,400 S.Y.		2.00	-
10.	Mulching	38.3 Acres		175.00	-
11.	Plantings	400 Ea.		15.00	-
12.	Fencing, Type F-4(M)	5680 L.F.	1,100	1.40	1,540.00
13.	Hinged Metal Gate	1 Ea.		200.00	-
14.	Straw Bales	450 Ea.	132	5.00	660.00
15.	Silt Fence	1800 L.F.		2.00	-
TOTAL					349,109.00

DATE: July 9, 1994
PAY ESTIMATE NO. Two (2)
PAGE 3 OF 3

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

APPROVED ADDITIONS OR DEDUCTIONS:

TOTAL AMOUNT EARNED:	<u>\$ 349,109.00</u>

93-23

PAYMENT REQUEST NO. Three (3)

FROM 7/10/94 TO 8/12/94

PROJECT TITLE: WEST HILL SAND & GRAVEL PIT RECLAMATION PROJECT

LOCATION: GREAT FALLS, MT MONT A/E or DSL-AMRB: 93-002

NAME OF CONTRACTOR: SHUMAKER TRUCKING & EXCAVATING

ADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract		\$ 566,582.50
Change Order No. _____	\$ _____	
Change Order No. _____	\$ _____	
Change Order No. _____	\$ _____	
Amount of Approved Change Order(s)		\$ 0
TOTAL CONTRACT AMOUNT		\$ 566,582.50

Pay Request No.	Amount of Request
One (1)	\$ 210,921.98
Two (2)	\$ 100,134.14
Three (3)	\$ 146,936.36

Total Contract Amount Completed to Date	\$ 514,020.74
Less Retainage (____%)	\$ 51,402.08
TOTAL AMOUNT EARNED TO DATE	\$ 462,618.67
Less Previous Payments	\$ 314,198.10
AMOUNT DUE THIS PAYMENT	\$ 148,420.57
Less 1% Tax	\$ 1,484.21
TOTAL DUE CONTRACTOR	\$ 146,936.36

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

APPROVED BY:

SHUMAKER TRUCKING & EXCAVATING
Contractor

MONTANA DEPT. OF STATE LANDS
Owner

By [Signature]
Date 8/18/94

By Jack D. [Signature] DSL-AMRB
Date 8/23/94

RECOMMENDED BY:

THOMAS, DEAN & HOSKINS, INC.
Engineer

By [Signature]
Date 8/19/94

RESP. CNTR	30133	34507-0006 1
OBJ. EXP.	12121	
APPROVAL	[Signature]	
DATE	8-23-94	

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

PROJECT: West Hill Sand & Gravel Reclamation Project

Amount complete to date \$ 514,020.75
Less Retained Percentage (10%) \$ 51,402.08
SUBTOTAL \$ 462,618.67

Less Previous Payments:

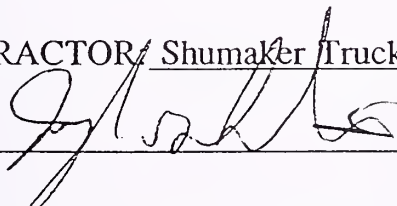
	<u>CONTRACTOR</u>	<u>1% to State DEPT. OF REVENUE</u>	<u>TOTAL</u>	
Estimate No. 1	<u>210,921.98</u>	<u>2,130.52</u>	<u>213,052.50</u>	
Estimate No. 2	<u>100,134.14</u>	<u>1,011.46</u>	<u>101,145.60</u>	
Estimate No. 3	<u> </u>	<u> </u>	<u> </u>	
Estimate No. 4	<u> </u>	<u> </u>	<u> </u>	
TOTALS:	<u>311,056.12</u>	<u>3,141.98</u>	<u>314,198.10</u>	\$ <u>314,198.10</u>

AMOUNT DUE CONTRACTOR: \$ 148,420.57

Less 1% Payable to State
Dept. of Revenue: \$ 1,484.21

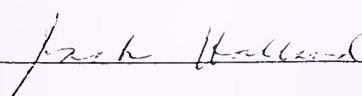
BALANCE: \$ 146,936.36

We hereby certify that the work for which payment is hereon requested has been performed in accordance with the plans and specifications.

CONTRACTOR: Shumaker Trucking
BY: 

We hereby certify that the foregoing is a true and correct statement of the amount due the Contractor for construction, to date, of the above project, and payment for the same is hereby recommended.

ENGINEER: Thomas, Dean & Hoskins, Inc.

BY: 

Abandoned Mine Reclamation Bureau
 Montana Department of State Lands
 1625 Eleventh Avenue
 Helena, MT 59620

CONTRACTOR: Shumaker Trucking

Item No.	Description	Bid Quantity	Quantity Completed	Unit Price	Value of Work Completed To Date
1.	Mobilization	Lump Sum	80%	7,700.00	6,160.00
2.	Excavation/Embankment	240,000 C.Y.	240,000	1.42	340,800.00
3.	Cover Soil Rehandling	42,000 C.Y.	40,522	1.25	50,652.50
4.	Drainage Gravel, 6" minus	10,000 C.Y.	8,275	5.91	48,905.25
5.	Subdrain:				
	6" CPE Slotted Drain Pipe	739 L.F.	789	20.00	15,780.00
	6" CPE Discharge Pipe	1,166 L.F.	1026	8.00	8,208.00
	4" CPE Slotted Drain Pipe	396 L.F.	307	10.00	3,070.00
	Riprap, 12" minus	1,047 C.Y.	1,051	35.00	36,785.00
7.	18" RCP Culvert	32 L.F.	32	45.00	1,440.00
8.	Seeding & Fertilizing	39 Acres		175.00	-
9.	Erosion Control Mat	3,400 S.Y.		2.00	-
10.	Mulching	38.3 Acres		175.00	-
11.	Plantings	400 Ea.		15.00	-
12.	Fencing, Type F-4(M)	5680 L.F.	1,100	1.40	1,540.00
13.	Hinged Metal Gate	1 Ea.		200.00	-
14.	Straw Bales	450 Ea.	136	5.00	680.00
15.	Silt Fence	1800 L.F.		2.00	-
TOTAL					514,020.75

DATE: August 12, 1994
PAY ESTIMATE NO. Three (3)
PAGE 3 OF 3

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

APPROVED ADDITIONS OR DEDUCTIONS:

TOTAL AMOUNT EARNED:	<u>\$ 514,020.75</u>

PAYMENT REQUEST NO. Four (4)

FROM 8/13/94 TO 9/17/94

PROJECT TITLE: WEST HILL SAND & GRAVEL PIT RECLAMATION PROJECT

LOCATION: GREAT FALLS, MT MONT A/E or DSL-AMRB: 93-002

NAME OF CONTRACTOR: SHUMAKER TRUCKING & EXCAVATING

ADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract		\$ 566,582.50
Change Order No. <u>One (1)</u>	\$ 24,186.20	
Change Order No. _____	\$ _____	
Change Order No. _____	\$ _____	
Amount of Approved Change Order(s)		\$ 24,186.20
TOTAL CONTRACT AMOUNT		\$ 590,768.70

Pay Request No.	Amount of Request
One (1)	\$ 210,921.98
Two (2)	\$ 100,134.14
Three (3)	\$ 146,936.36
Four (4)	\$ 104,411.40

Total Contract Amount Completed to Date	\$ 631,205.25
Less Retainage (____%)	\$ 63,120.52
TOTAL AMOUNT EARNED TO DATE	\$ 568,084.73
Less Previous Payments	\$ 462,618.67
AMOUNT DUE THIS PAYMENT	\$ 105,466.06
Less 1% Tax	\$ 1,054.66
TOTAL DUE CONTRACTOR	\$ 104,411.40

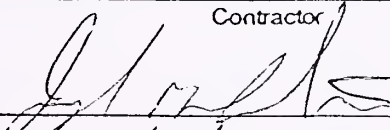
I certify that this claim is correct and just in all respects and that payment or credit has not been received.

APPROVED BY:

SHUMAKER TRUCKING & EXCAVATING MONTANA DEPT. OF STATE LANDS

Contractor

Owner

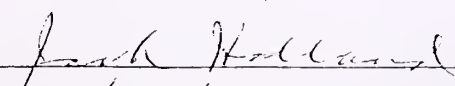
By 
 Date 9/21/94

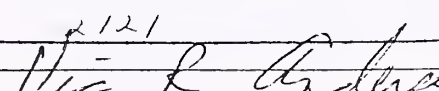
By _____
 Date _____

RECOMMENDED BY:

THOMAS, DEAN & HOSKINS, INC.

Engineer

By 
 Date 9/28/94

RESP. CNTR. <u>34507-0006 F</u>	<u>30133</u>
OBJ. EXP. <u>2121</u>	
APPROVAL <u></u>	
DATE <u>9-29-94</u>	

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

PROJECT: West Hill Sand & Gravel Reclamation Project

Amount complete to date \$ 631,205.25
Less Retained Percentage (10%) \$ 63,120.52
SUBTOTAL \$ 568,084.73

Less Previous Payments:

	<u>CONTRACTOR</u>	1% to State DEPT. OF REVENUE	<u>TOTAL</u>	
Estimate No. 1	<u>210,921.98</u>	<u>2,130.52</u>	<u>213,052.50</u>	
Estimate No. 2	<u>100,134.14</u>	<u>1,011.46</u>	<u>101,145.60</u>	
Estimate No. 3	<u>146,936.36</u>	<u>1,484.21</u>	<u>148,420.57</u>	
Estimate No. 4	<u> </u>	<u> </u>	<u> </u>	
TOTALS:	<u>457,992.48</u>	<u>4,626.19</u>	<u>462,618.67</u>	\$ <u>462,618.67</u>

AMOUNT DUE CONTRACTOR: \$ 105,466.06
Less 1% Payable to State
Dept. of Revenue: \$ 1,054.66

BALANCE: \$ 104,411.40

We hereby certify that the work for which payment is hereon requested has been performed in accordance with the plans and specifications.

CONTRACTOR: Shumaker Trucking

BY: 

We hereby certify that the foregoing is a true and correct statement of the amount due the Contractor for construction, to date, of the above project, and payment for the same is hereby recommended.

ENGINEER: Thomas, Dean & Hoskins, Inc.

BY: 

Abandoned Mine Reclamation Bureau
 Montana Department of State Lands
 1625 Eleventh Avenue
 Helena, MT 59620

CONTRACTOR: Shumaker Trucking

Item No.	Description	Bid Quantity	Quantity Completed	Unit Price	Value of Work Completed To Date
1.	Mobilization	Lump Sum	100%	7,700.00	7,700.00
2.	Excavation/Embankment	240,000 C.Y.	284,000	1.42	403,280.00
3.	Cover Soil Rehandling	42,000 C.Y.	40,720	1.25	50,900.00
4.	Drainage Gravel, 6" minus	10,000 C.Y.	8,275	5.91	48,905.25
5.	Subdrain:				
	6" CPE Slotted Drain Pipe	739 L.F.	789	20.00	15,780.00
	6" CPE Discharge Pipe	1,166 L.F.	1,528	8.00	12,224.00
	4" CPE Slotted Drain Pipe	396 L.F.	307	10.00	3,070.00
	Riprap, 12" minus	1,047 C.Y.	1,051	35.00	36,785.00
7.	18" RCP Culvert	32 L.F.	32	45.00	1,440.00
8.	Seeding & Fertilizing	39 Acres	40	175.00	7,000.00
9.	Erosion Control Mat	3,400 S.Y.	4,507	2.00	9,014.00
10.	Mulching	38.3 Acres	40	175.00	7,000.00
11.	Plantings	400 Ea.	0	15.00	-
12.	Fencing, Type F-4(M)	5680 L.F.	3,660	1.40	5,124.00
13.	Hinged Metal Gate	1 Ea.	1	200.00	200.00
14.	Straw Bales	450 Ea.	136	5.00	680.00
15.	Silt Fence	1800 L.F.	0	2.00	-
TOTAL					\$609,102.25

DATE: September 17, 1994
PAY ESTIMATE NO. Four (4)
PAGE 3 OF 3

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

APPROVED ADDITIONS OR DEDUCTIONS:

Change Order No. 1 Partial	\$22,103.00
TOTAL AMOUNT EARNED:	\$ 631,205.25

PAYMENT REQUEST NO. Five (5)FROM 9/17/94 TO 10/6/94PROJECT TITLE: WEST HILL SAND & GRAVEL PIT RECLAMATION PROJECTLOCATION: GREAT FALLS, MT MONT A/E or DSL-AMRB: 93-002NAME OF CONTRACTOR: SHUMAKER TRUCKING & EXCAVATINGADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract		\$ 566,582.50
Change Order No. <u>One (1)</u>	\$ 24,186.20	
Change Order No. <u>Two (2)</u>	\$ 1,400.00	
Change Order No. _____	\$	
Amount of Approved Change Order(s)		\$ 25,586.20
TOTAL CONTRACT AMOUNT		\$ 592,168.70

Pay Request No.	Amount of Request
One (1)	\$ 210,921.98
Two (2)	\$ 100,134.14
Three (3)	\$ 146,936.36
Four (4)	\$ 104,411.40
Five (5)	\$ 13,956.72

Total Contract Amount Completed to Date	\$ 646,869.37
Less Retainage (<u>10</u> %)	\$ 64,686.94
TOTAL AMOUNT EARNED TO DATE	\$ 582,182.43
Less Previous Payments	\$ 568,084.73
AMOUNT DUE THIS PAYMENT	\$ 14,097.70
Less 1% Tax	\$ 140.98
TOTAL DUE CONTRACTOR	\$ 13,956.72

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

APPROVED BY:

SHUMAKER TRUCKING & EXCAVATINGMONTANA DEPT. OF STATE LANDS

Contractor

Owner

By [Signature]By Jack D. [Signature] DSL-AMRBDate 7 Oct 94Date 10/12/94

RECOMMENDED BY:

THOMAS, DEAN & HOSKINS, INC.

Engineer

By [Signature]Date 10/16/94

RESP. CNTR.	30/133
OBJ. EXP.	2121
APPROVAL	[Signature]
DATE	10-13-94

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

PROJECT: West Hill Sand & Gravel Reclamation Project

Amount complete to date \$ 646,869.37
Less Retained Percentage (10%) \$ 64,686.94
SUBTOTAL \$ 582,182.43

Less Previous Payments:

	<u>CONTRACTOR</u>	<u>1% to State DEPT. OF REVENUE</u>	<u>TOTAL</u>	
Estimate No. 1	<u>210,921.98</u>	<u>2,130.52</u>	<u>213,052.50</u>	
Estimate No. 2	<u>100,134.14</u>	<u>1,011.46</u>	<u>101,145.60</u>	
Estimate No. 3	<u>146,936.36</u>	<u>1,484.21</u>	<u>148,420.57</u>	
Estimate No. 4	<u>104,411.40</u>	<u>1,054.66</u>	<u>105,466.06</u>	
TOTALS:	<u>562,403.88</u>	<u>5,680.95</u>	<u>568,084.73</u>	\$ <u>568,084.73</u>

AMOUNT DUE CONTRACTOR: \$ 14,097.70

Less 1% Payable to State
Dept. of Revenue:

\$ 140.98

BALANCE: \$ 13,956.720

We hereby certify that the work for which payment is hereon requested has been performed in accordance with the plans and specifications.

CONTRACTOR: Shumaker Trucking

BY: 

We hereby certify that the foregoing is a true and correct statement of the amount due the Contractor for construction, to date, of the above project, and payment for the same is hereby recommended.

ENGINEER: Thomas, Dean & Hoskins, Inc.

BY: 

DATE: October 6, 1994PAY ESTIMATE NO. Five (5)

PAGE 2 OF 3

Abandoned Mine Reclamation Bureau
 Montana Department of State Lands
 1625 Eleventh Avenue
 Helena, MT 59620

CONTRACTOR: Shumaker Trucking

Item No.	Description	Bid Quantity	Quantity Completed	Unit Price	Value of Work Completed To Date
1.	Mobilization	Lump Sum	100%	7,700.00	7,700.00
2.	Excavation/Embankment	240,000 C.Y.	288,766	1.42	410,047.72
3.	Cover Soil Rehandling	42,000 C.Y.	40,720	1.25	50,900.00
4.	Drainage Gravel, 6" minus	10,000 C.Y.	8,275	5.91	48,905.25
5.	Subdrain:				
	6" CPE Slotted Drain Pipe	739 L.F.	789	20.00	15,780.00
	6" CPE Discharge Pipe	1,166 L.F.	1,528	8.00	12,224.00
	4" CPE Slotted Drain Pipe	396 L.F.	307	10.00	3,070.00
	Riprap, 12" minus	1,047 C.Y.	1,051	35.00	36,785.00
7.	18" RCP Culvert	32 L.F.	32	45.00	1,440.00
8.	Seeding & Fertilizing	39 Acres	45	175.00	7,875.00
9.	Erosion Control Mat	3,400 S.Y.	4,507	2.00	9,014.00
10.	Mulching	38.3 Acres	44	175.00	7,700.00
11.	Plantings	400 Ea.	0	15.00	-
12.	Fencing, Type F-4(M)	5680 L.F.	5,583	1.40	7,816.20
13.	Hinged Metal Gate	1 Ea.	1	200.00	200.00
14.	Straw Bales	450 Ea.	136	5.00	680.00
15.	Silt Fence	1800 L.F.	0	2.00	-
TOTAL					\$620,137.17

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

APPROVED ADDITIONS OR DEDUCTIONS:

Change Order No. 1 Partial	\$25,332.20
Drainage Ditch "A" Extension	1,400.00
TOTAL AMOUNT EARNED:	\$ 646,869.37

PAYMENT REQUEST NO. Six (6) FINAL

FROM 10/6/94 TO 11/11/94

PROJECT TITLE: WEST HILL SAND & GRAVEL PIT RECLAMATION PROJECT

LOCATION: GREAT FALLS, MONTANA MONT A/E or DSL-AMRB: 93-002

NAME OF CONTRACTOR: SHUMAKER TRUCKING & EXCAVATING

ADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract		\$ 566,582.50
Change Order No. <u>One (1)</u>	\$ 24,186.20	
Change Order No. <u>Two (2)</u>	\$ 1,400.00	
Change Order No. <u>Three (3)</u>	\$ 61,355.67	
Amount of Approved Change Order(s)		\$ 86,941.87
TOTAL CONTRACT AMOUNT		\$ 653,524.37

Pay Request No.	Amount of Request
One (1)	\$ 210,921.98
Two (2)	\$ 100,134.14
Three (3)	\$ 146,936.36
Four (4)	\$ 104,411.40
Five (5)	\$ 13,956.72
Six (6)	\$ 70,628.52

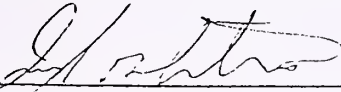
Total Contract Amount Completed to Date	\$ 653,524.37
Less Retainage (<u>0</u> %)	\$ 0
TOTAL AMOUNT EARNED TO DATE	\$ 653,524.37
Less Previous Payments	\$ 582,182.43
AMOUNT DUE THIS PAYMENT	\$ 71,341.94
Less 1% Tax	\$ 713.42
TOTAL DUE CONTRACTOR	\$ 70,628.52

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

APPROVED BY:

SHUMAKER TRUCKING & EXCAVATING
Contractor

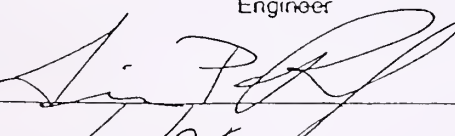
MONTANA DEPT. OF STATE LANDS
Owner

By 
Date 11/15/94

By _____
Date _____

RECOMMENDED BY:

THOMAS, DEAN & HOSKINS, INC.
Engineer

By 
Date 11/15/94

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

PROJECT: West Hill Sand & Gravel Reclamation Project

Amount complete to date \$ 653,524.37
Less Retained Percentage (0%) \$ 0
SUBTOTAL \$ 653,524.37

Less Previous Payments:

	<u>CONTRACTOR</u>	<u>1% to State DEPT. OF REVENUE</u>	<u>TOTAL</u>	
Estimate No. 1	<u>210,921.98</u>	<u>2,130.52</u>	<u>213,052.50</u>	
Estimate No. 2	<u>100,134.14</u>	<u>1,011.46</u>	<u>101,145.60</u>	
Estimate No. 3	<u>146,936.36</u>	<u>1,484.21</u>	<u>148,420.57</u>	
Estimate No. 4	<u>104,411.40</u>	<u>1,054.66</u>	<u>105,466.06</u>	
Estimate No. 5	<u>13,956.72</u>	<u>140.98</u>	<u>14,097.70</u>	
TOTALS:	<u>576,360.60</u>	<u>5,821.93</u>	<u>582,182.43</u>	\$ <u>582,182.43</u>

AMOUNT DUE CONTRACTOR: \$ 71,341.94

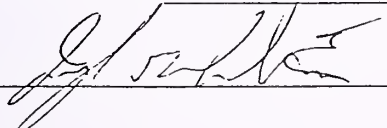
Less 1% Payable to State

Dept. of Revenue: \$ 713.42

BALANCE: \$ 70,628.52

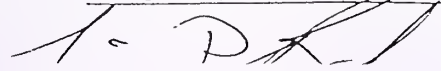
We hereby certify that the work for which payment is hereon requested has been performed in accordance with the plans and specifications.

CONTRACTOR: Shumaker Trucking

BY: 

We hereby certify that the foregoing is a true and correct statement of the amount due the Contractor for construction, to date, of the above project, and payment for the same is hereby recommended.

ENGINEER: Thomas, Dean & Hoskins, Inc.



Abandoned Mine Reclamation Bureau
 Montana Department of State Lands
 1625 Eleventh Avenue
 Helena, MT 59620

CONTRACTOR: Shumaker Trucking

Item No.	Description	Bid Quantity	Quantity Completed	Unit Price	Value of Work Completed To Date
1.	Mobilization	Lump Sum	100%	7,700.00	7,700.00
2.	Excavation/Embankment	240,000 C.Y.	288,766	1.42	410,047.72
3.	Cover Soil Rehandling	42,000 C.Y.	40,720	1.25	50,900.00
4.	Drainage Gravel, 6" minus	10,000 C.Y.	8,275	5.91	48,905.25
5.	Subdrain:				
	6" CPE Slotted Drain Pipe	739 L.F.	789	20.00	15,780.00
	6" CPE Discharge Pipe	1,166 L.F.	1,528	8.00	12,224.00
	4" CPE Slotted Drain Pipe	396 L.F.	307	10.00	3,070.00
	Riprap, 12" minus	1,047 C.Y.	1,051	35.00	36,785.00
7.	18" RCP Culvert	32 L.F.	32	45.00	1,440.00
8.	Seeding & Fertilizing	39 Acres	47	175.00	8,225.00
9.	Erosion Control Mat	3,400 S.Y.	4,507	2.00	9,014.00
10.	Mulching	38.3 Acres	46	175.00	8,050.00
11.	Plantings	400 Ea.	397	15.00	5,955.00
12.	Fencing, Type F-4(M)	5680 L.F.	5,583	1.40	7,816.20
13.	Hinged Metal Gate	1 Ea.	1	200.00	200.00
14.	Straw Bales	450 Ea.	136	5.00	680.00
15.	Silt Fence	1800 L.F.	0	2.00	-
TOTAL					\$626,792.17

Abandoned Mine Reclamation Bureau
Montana Department of State Lands
1625 Eleventh Avenue
Helena, MT 59620

CONTRACTOR: Shumaker Trucking

APPROVED ADDITIONS OR DEDUCTIONS:

Change Order No. 1: Discharge Permit, Tackifier, Crack/Slide, Lateral Drains	\$25,332.20
Change Order No. 2: Drainage Ditch "A" Extension	1,400.00
TOTAL AMOUNT EARNED:	\$ 653,524.37

ATTACHMENT 4: CONSULTANT COSTS

ANALYSIS OF CONSULTANT COSTS

The following tables summarize the Engineering manhours and costs incurred by TD&H for the West Hill Project for Design and Construction.

DESIGN PHASE

ITEM	MANHOURS	COST	
Senior Engineer	8.5	\$531.04	
Engineer	228	\$10,352.48	
Engineering Technician	82	\$3,680.79	
Survey Party Chief	58.5	\$1,926.75	
Surveyor	53	\$1131.64	
Draftsperson/Designer	334.5	\$9,054.15	
Clerical	29	\$604.08	
<i>SUBTOTAL - LABOR</i>			<i>\$27,281.00</i>
Geotechnical Engineer - Subconsultant		\$16,163.32	
Supplies		\$28.63	
Mileage		\$55.30	
Printing		\$552.00	
Survey Instrument		\$410.00	
Computer		\$1,965.00	
Plotter		\$208.00	
<i>SUBTOTAL - EXPENSES</i>			<i>\$19,382.00</i>
<i>FEE</i>			<i>\$2,896.00</i>
TOTAL			\$49,555.00

CONSTRUCTION PHASE

ITEM	MANHOURS	COST	
Construction Manager	64	\$4,855.00	
Engineer	245	\$11,694.00	
Inspector	804.5	\$30,588.00	
Engineering Technician	31.5	\$1,484.00	
Survey Party Chief	93.5	\$3,300.00	
Surveyor	78	\$2,240.00	
Draftsperson/Designer	173	\$4,875.00	
Clerical	64	\$944.00	
<i>SUBTOTAL - LABOR</i>			<i>\$59,980.00</i>
Supplies		\$394.00	
Mileage		\$1,055.00	
Printing		\$304.00	
Survey Instrument		\$530.00	
Computer		\$1,270.00	
Plotter		\$530.00	
<i>SUBTOTAL - EXPENSES</i>			<i>\$4,089</i>
<i>FEE</i>			<i>\$5,200.00</i>
TOTAL			\$69,270.00

ATTACHMENT 5: OTHER PROJECT DOCUMENTS

DEPARTMENT OF STATE LANDS



MARC RACICOT, GOVERNOR

P.O. BOX 201601

STATE OF MONTANA

(406) 444-2074

1625 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

March 16, 1994

MEMORANDUM

TO: Bidders for the Great Falls Gravel Pit Project

FROM: Jack Yates, Reclamation Specialist
Abandoned Mine Reclamation Bureau *JY*

RE: Pre-Bid Meeting Notes

The Pre-Bid meeting for the Great Falls/West Hill Sand and Gravel Pit Reclamation Project was held on Tuesday, March 15, at 1:00 p.m. A concern was raised at the meeting over the use, source and requirement for water during construction. As stated at the meeting, water is not set aside as a specific bid item. The use of water can be required by the AMRB during construction for dust control and/or for the attainment of suitable earthwork compaction.

Mark Frahm of the City of Great Falls was contacted after the meeting to allow the use of fire hydrants as a water source during project construction. He stated that the project contractor will be able to utilize the fire hydrant located on the project site as a water source free of charge. It will be the contractors responsibility to provide a water truck for water distribution should water be needed for dust control or compaction.

Enclosed is the Pre-Bid meeting attendance sheet. In addition, a contractor left a blue coat in the State suburban during the meeting. Give me a call to arrange for return.

JY/MS/mm

RECEIVED
THOMAS, DEAN & HOSKINS

MAR 17 1994

Hwy. Struct. Municipal

3/23/94

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 3
To <i>BILL TURNER</i>	From <i>Tina Rane</i>	
Co. <i>114000 MATS</i>	Co. <i>TB & H</i>	
Dept.	Phone # <i>761-3010</i>	
Fax # <i>737-2050</i>	Fax # <i>761-3010</i>	

NAMES OF PERSONS ATTENDING

- ☒ PREBID CONFERENCE
☐ PRECONSTRUCTION CONFERENCE
☐ MONTHLY MEETING

FOR Great Falls Sand and Gravel Pit Reclamation PROJECT
Cascade COUNTY, MT - DSL-AMRB 93-002

DATE: 3/15/94TIME: 1:00 p.m.

Name	Address	Affiliation	Telephone Number
Jack Yates	1625 11th Ave., Helena	Dept. of State Lands	444-2074
Tim Ranf	1200 25th St. South, GF	Thomas, Dean & Hoskins	761-3010
William McLaughlin	2200-5th N.W., GF	Cascade Ditch Co.	452-6058
Dale Moore	779 Carter Drive	SK Construction	449-7507
Tom Goodman	1518 Dodge Ave., Helena	Goodman Seeding	442-7606
Dennis Devous	P.O. Box 1215, Billings	Empire Sand & Gravel	252-8465
L.D. Mitchell	Box 114, Norris	A.M. Welles, Inc.	685-3379
Alfred Hokanson	Box 8, Norris	A.M. Welles, Inc.	685-3372
John Montgomery	Box 815, Hilger	Montgomery Construction	538-9811
Ed Balard	4601-7th Ave. So., GF	Balard Construction	452-2251
Guy Huestis	1001 River Drive	Falls Construction	727-5300
Joe Aline	Box 1442	Shumaker Trucking	727-3537
Cliff Linster	P.O. Box 1319, Libby	Pumco	293-2794
Gene A. Perry	Box 1288, Malta	21 Construction	654-1203

NAMES OF PERSONS ATTENDING

- | | |
|-------------------------------------|----------------------------|
| <input checked="" type="checkbox"/> | PREBID CONFERENCE |
| <input type="checkbox"/> | PRECONSTRUCTION CONFERENCE |
| <input type="checkbox"/> | MONTHLY MEETING |

FOR Great Falls Sand and Gravel Pit Reclamation
 Cascade COUNTY, MT - DSL-AMRB 93-002 PROJECT

DATE: 3/15/94 TIME: 1:00 p.m.

[illegible]

AGREEMENT

STATE OF MONTANA DEPARTMENT OF STATE LANDS

FORM OF AGREEMENT BETWEEN CONTRACTOR AND OWNER

This Agreement made on 4/18, 1991, between Shumaker Trucking, hereinafter called the "Contractor", and the STATE OF MONTANA, acting by and through the Commissioner DEPARTMENT OF STATE LANDS, hereinafter called the "Owner".

WITNESSETH, that the Contractor and the Owner for the consideration hereinafter named agree as follows:

ARTICLE 1. SCOPE OF WORK

The Contractor shall furnish all the materials and perform all of the work for the entire portion of the Contract as shown on the Drawings and described in the Specifications entitled Great Falls/West Hill Sand and Gravel Pit Reclamation Project, Montana DSL-AMRB 93-002, and shall do everything required by the Contract Documents.

ARTICLE 2. TIME OF COMPLETION

The work to be performed under this Contract shall be commenced on or before a date set forth by the Owner in a written "Notice to Proceed" and shall be completed within 90 calendar days.

Liquidated damages are Four Hundred Dollars (\$400.00) per calendar day.

ARTICLE 3. THE CONTRACT SUM

The Owner shall pay the Contractor for the performance of the Contract, subject to additions and deductions provided, in current funds as follows:

Five Hundred Sixty Six Thousand Five Hundred Eighty Two Dollars and Fifty Cents (\$566,582.50)

ARTICLE 4. PROGRESS PAYMENTS

The Owner shall make payments on account of the Contract as follows: 90% of the value, based on the Contract prices of labor and materials incorporated in the work and of materials suitably stored at the project site or at some other location agreed upon in writing, up to the last day of the month, less the aggregate of the previous payments.

ARTICLE 5. ACCEPTANCE AND FINAL PAYMENT

Final payment shall be due 30 days after completion and acceptance of the work, provided the work is fully completed and the Contract is fully performed. Upon receipt of written notice that the work is ready for final inspection and acceptance, the Owner shall promptly make his inspection(s); and when he finds the work acceptable under the Contract and the Contract fully performed, he shall promptly issue a Certificate of Acceptance, over his own signature, stating the work provided for in this Contract has been completed and is acceptable by him under its terms and conditions and that the entire balance found to be due the Contractor and noted in the final certificate is due and payable.

Before issuance of a final certificate, the Contractor shall submit evidence satisfactory to the Owner that all payrolls, materials bills, and other indebtedness connected with the work have been paid. If the work has been substantially completed and the Owner certifies that full completion thereof is materially delayed through no

fault of the Contractor, the Owner shall, without terminating the Contract, make payment of the balance due for the portion of the work fully completed and accepted. Payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE 6. NO DAMAGES FOR DELAY - OTHER CONTRACTORS

It shall be the affirmative duty of each and every Contractor on the project to cooperate and coordinate the scheduling and progress of its work with that of all other Contractors. Under no circumstances shall the State of Montana be liable for any damages for delay caused by the acts or omissions of another Contractor, and each Contractor expressly consents to suit by other Contractors for each and every claim for delay by said Contractors performing work on the aforementioned project. It is further stipulated and agreed that the terms of this provision shall govern over any other Contract document as defined in Article 7, infra.

ARTICLE 7. THE CONTRACT DOCUMENTS

The Bid Documents, together with this Agreement, form the Contract; and they are as totally a part of the Contract as if hereto attached or herein repeated. The following is an enumeration of the Contract Documents:

Invitation for Bid, Instructions to Bidders, Landowner/Contact List, Proposal, Bid Bond, Certification of Nonsegregated Facilities, Notice of Award, Agreement, Performance Bond, Labor and Material Bond, Insurance Certificates, Consent of Surety, Notice to Proceed, Work Directive Change, Change Order, Affidavit on Behalf of Contractor, Approval of Subcontractors, Substitution Request Form, Schedule of Values, Payment Request, Schedule of Materials, Contractor's Certificate of Completion, Certificate of Substantial Completion, Certificate of Acceptance, Standard Specifications for Abandoned Mine Reclamation Construction (General Conditions, Supplementary Conditions, Technical Specifications), Special Provisions, Drawings, and Wage Rates.

ARTICLE 8. STANDARD PREVAILING RATE OF WAGES AND PREFERENCE OF MONTANA LABOR

The Contractor and Subcontractors shall pay the current Montana Prevailing Wage Rates, including fringe benefits for health and welfare and pension contributions and travel allowance provisions in effect and applicable to the county or locality in which the work is being performed. These prevailing wage rates will be in accordance with the most current determination including applicable modifications and will be attached to the Specifications and are incorporated herein.

ARTICLE 9. VENUE

In the event of litigation concerning the Contract, venue shall be the First Judicial District in and for the County of Lewis and Clark, Montana, and the agreement shall be interpreted according to the laws of Montana.

WHEREOF the parties hereto have executed this Agreement, the day and year first above written.

STATE OF MONTANA
DEPARTMENT OF STATE LANDS

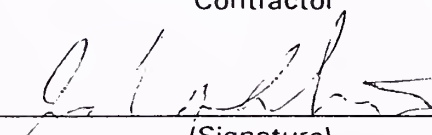
Owner


Commissioner

4/18/94
Date

Shumaker Trucking & Excavating Contractors,

Contractor


(Signature)

Joseph G. Aline, Sec./Treas.

(Typed/Printed Name and Title)

4/15/94

Date

NOTICE TO PROCEED

RECEIVED

MAY 6 1994

STATE LANDS

TO: Shumaker Trucking
P.O. Box 1442
Great Falls, Montana 59403

DATE: May 5, 1994
PROJECT: West Hill Sand & Gravel Pit

DSL-AMRB: #93-002

In accordance with the Agreement dated April 18, 1994, you are hereby notified to commence Work no later than May 16, 1994, and you are to complete the Work within 90 consecutive calendar days thereafter. The date of completion of all Work is, therefore, August 14, 1994.

OWNER:

DEPARTMENT OF STATE LANDS

By: *David Anderson*
Title: AMR Bur. Chief

ACCEPTANCE OF NOTICE TO PROCEED

Receipt of the above Notice to Proceed is hereby acknowledged this 6th day of May, 1994.

CONTRACTOR:

Shumaker Trucking & Excavating Contractors, I

By: *Joe Aline*
Title: Joe Aline, Project Manager

APPROVAL OF SUBCONTRACTORS

PROJECT TITLE: West Hill Sand & Gravel Pit Reclamation Project

MONT A/E or DSL-AMRB: 93-002

CONTRACTOR: Shumaker Trucking & Excavating Contractors, Inc.

Listed below are all of the subcontractors which we propose to use on this project. Your approval of these subcontractors is requested.

We certify that these subcontractors, as listed, have been advised of the labor standards and provisions applicable to this project and that these provisions, as incorporated in the Contract between the Owner and the undersigned Contractor, will be incorporated in the contracts between the Contractor and the listed subcontractors. These provisions shall include all necessary insurance, Workers' Compensation, and other legal requirements that the Contractor must carry.

Name and Address of Subcontractor	Montana Public Contractor's License	Type of Work	Approximate Value of Subcontract
Montgomery Construction P.O. Box 815 Hilger, MT 59451	7124A	Excav./Embank.	\$300,000.00
Precision Woodworks 731 50th St. South Great Falls, MT 59405		Fencing	\$3,500.00
J.A. Contracting 1601 9th St. N.W. #210 Great Falls, MT 59404		Fencing	\$3,500.00
Prairie Hydroseeding P.O. Box 2100 Havre, MT 59501		Seed/Fert./Mulch	\$21,438.60
		TOTAL:	

Any deviation from this list shall be approved by the Owner prior to the subcontractor conducting the work.

Signed by [Signature]
Contractor

4/22/94

Date

Checked by [Signature]
Engineer

5/4/94

Date

Approved by [Signature]
Owner

Date

TK

MINUTES OF PRECONSTRUCTION CONFERENCE

Project: West Hill Sand & Gravel Pit Reclamation
 Date: May 4, 1994
 Location: Thomas, Dean & Hoskins, Inc.

Time: 10:00 AM

Attendees:

<u>Name</u>	<u>Company</u>	<u>Telephone #</u>
Jack Holland	TD&H	761-3010
Tim Ranf	TD&H	761-3010
Jack O. Yates	DSL-AMRB	444-2074
Duane Shumaker	Shumaker Trucking	727-3537
Gary Franklin	TD&H	761-3010
John Montgomery	Montgomery Construction	538-9811
Larry J. Birnser ^{Gouger}	Montgomery Construction	538-9811
Ken Burnham	Montgomery Construction	538-9811
Jerry Ferda	Airport Authority	727-3404 ext. 1-398
Joe Aline	Shumaker Trucking	727-3537
Gene Shumaker	Shumaker Trucking	737-3537
Jim Pierce	City of Great Falls	771-1258

Discussion

- Project Organization:**

DSL Abandoned Mine Reclamation Bureau: Jack Yates

Engineer:

Tim Ranf, Project Engineer
Jack Holland, Construction Mgr.
Gary Franklin, Inspector

Contractor:

Joe Aline, Shumaker Construction

Subcontractors:

Ken Burnham, Montgomery Construction

Other Representatives:

Jim Pierce, City of Great Falls
Jerry Ferda, Great Falls Int'l Airport

- Contractor's Schedule**

Start: 5/11/94 - tentative

Contract: Time 90 days

Normal Work Week: 4 - 10 hour days (7 a.m. to 5:30 p.m.) unless rain out - then they will make up time on Friday

Jack Yates to send Notice to Proceed to Shumaker this week.

- Site Access, Security**

Access from Airport property - Contractor will supply his own padlock for gate at

Perimeter Road. Must be locked at the end of each day.

Access through City gate - Contractor will maintain the existing gate for as long as possible.

City to supply meters for hydrants for water use. Shumaker to contact Public Works Department.

Dust suppression is critical on this project due to the proximity of the Airport and residences.

Fence at the top of hill will be shifted southwest along Airport perimeter. Shumaker plans to install this first and put gate in. This will allow maintenance of airport security.

- **Contractor's Submittals**

Joe Aline to submit construction schedule, shop drawings schedule and shop drawings to TD&H - 5 copies of each

- **Applications for Payment**

Payment requests will be made every 30 days. Estimated quantities will be reviewed weekly.

Discussed measurement and payment for cover soil and riprap. Cover soil is paid under excavation and coversoil rehandling. Interim payments for riprap will be made by converting scale ticket weights to cubic yards. Shumaker to measure specific truck volume to obtain unit weight conversion. Final payment will be made by measurement in place.

- **Critical Work Sequencing**

Discussed sequence of work. Sub-drainage and perimeter ditches to be installed first.

- **Survey Control**

TD&H to stake piping, ditches, gravel drain blanket, new fence alignment, and slope control. Slope staking will include stakes at 100 foot stations for catch limits and grade breaks.

- **Field Decisions, Work Directives, and Change Orders**

Discussed field decisions. Montgomery will be doing most of the work. Ken Burnham will be on-site to handle minor questions. Anything involving money must go through Shumaker.

Discussed a change order to apply tackifier to mulch for erosion control in the interim period between mulch placement and seeding in October. After seeding, tackifier will be re-applied. Joe Aline to obtain prices and give to Jack Yates.

State to reimburse Shumaker \$400.00 for Stormwater Discharge Permit through a change order.

- **Safety**

Jack Holland to contact City of Great Falls to obtain input for traffic signs.

- **Inspection and Testing**

Gary Franklin will be full time inspector. Discussed Proctor tests. Shumaker is responsible for submitting proctor results. Holland offered that Shumaker would be responsible up to 6 proctors. If more than that were required, TD&H would handle. At site inspection, it was determined that Shumaker would obtain 3 samples - 1 from sand pit area, 1 from flat area adjacent to lower Sun River Bridge Road and 1 from the area at the west side of the project.

- **Site Topography**

Reviewed site topographic changes. Ranf will have revised plans distributed.

- **Other Issues**

Tim Ranf to contact MPC regarding power pole relocation.

Joe Aline to obtain Stormwater Discharge Permit. Permit must be in-hand before any work can be initiated.

Discussed disposal of trees. Trees are not to be buried. Joe Aline to obtain prices for burning, landfilling and chipping and give to Jack Yates.

- **Progress Meetings**

A meeting will be held about 1 week after start-up. At this meeting it will be decided how often progress meetings will be held. City and Airport will be notified of meetings and will receive copies of the weekly progress report.

WEST HILL SAND & GRAVEL PIT RECLAMATION

CONSTRUCTION MEETING

5/24/94 - ON SITE

ATTENDEES: Gene Shumaker, Ken Carlstad, Ken Burnham - Shumaker Trucking and Excavating; Gary Franklin, Tim Ranf, Jack Holland - TD&H

ACTION NEEDED:

1. Shumaker will submit revised, proposed construction schedule.
2. Shumaker will submit rip rap and fence for approval.
3. Ranf will coordinate with Yates for addition of approx. 50 LF of 6" CPE, Toe drain line - north end. Additional seep found.
4. Ranf will coordinate with Yates for addition of approx. 100 LF of 4" subdrain above line cutoff subdrain then tie to line. Additional seep found.

DECISIONS MADE:

1. Additional excavation necessary before deciding on seep found at the top.
2. Oversized rip rap is accepted but pay will be for 12 inch only.

ITEMS OF INFORMATION:

1. Trees are being placed in Shumaker sanitary landfill east of G.F.
2. Bales will be placed around cover dirt on 5/26.

Gravel pit near West Hills bites the dust

By Tribune Staff

It's reclamation, not subdivision, adjacent to the West Hills residential area below the airport near Sun River Road.

The city has closed its sand and gravel pit there and there has been piling dirt and installing drains.

Franklin, construction inspector for project engineers Thomas, Dean and Hoskins, has been fielding questions from West Hills residents who thought a new subdivision was under way.

A \$666,582 contract from Montana Department of State Lands

Abandoned Mine Reclamation Bureau calls for installing drains, reshaping the hillside, seeding grass and planting 400 trees, Franklin said.

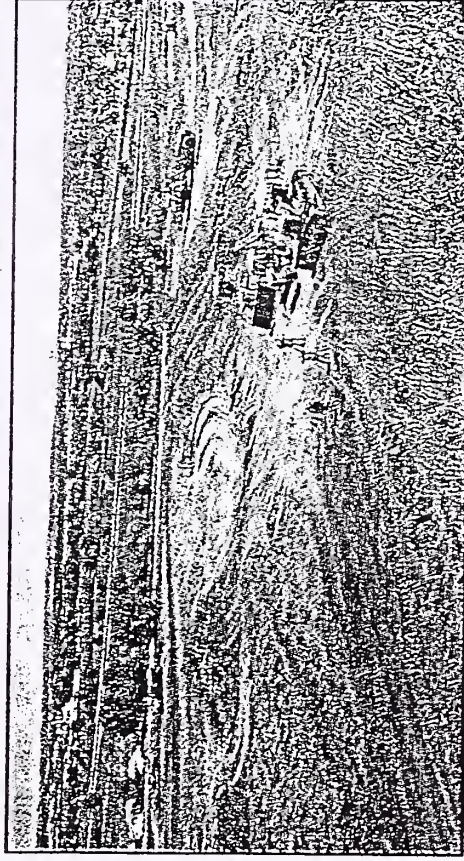
The 39-acre project is all on property owned by Great Falls International Airport. Shumaker Trucking and Excavating of Great Falls is primary contractor for the project; Montgomery Construction of Lewistown is doing the dirt work, Franklin said.

With the exception of seeding to be done in October, the project is to be done in mid-August, Franklin said. A straw mulch soil stabilizer

will be applied until seeding.

Closing the pit means the city of Great Falls will have to find a new source of sand. According to Public Works utilities systems supervisor Mark Frahm, the city has stockpiled enough sand for this season's use. The city uses the sand for backfilling trenches for water, sewer and storm drain lines.

The city has in the past received complaints from West Hills residents about sand blowing from the pit, Frahm said. The reclamation efforts should solve the problem, and the area "will definitely look nicer than before," he said.



Workers strip and stockpile topsoil and install sub drains and gravel this week as part of a project to reclaim the West Hill sand and gravel pit near Sun River Road.

Tribune photo by Wayne Arns

WEST HILL SAND & GRAVEL PIT RECLAMATION

CONSTRUCTION MEETING

6/15/94 - At Airport

ATTENDEES: Gene Shumaker, Joe Aline, Ken Burnham - Shumaker Trucking and Excavating; Gary Franklin, Jack Holland - TD&H; Dean Linn - Airport

ACTION NEEDED:

1. Ranf coordinated with Yates for addition of approx. 50 LF of 6" CPE, Toe drain line - north end. Additional seep found.
2. Ranf coordinated with Yates for addition of approx. 100 LF of 4" subdrain above line cutoff subdrain then tie to line. Additional seep found.
3. Items requiring Contractor attention:
 - a. Move bales to control silt at road ditch.
 - b. clean out RCP to improve drainage.
 - c. Repair broken toe drain pipe.
 - d. Cleanout existing storm drain pipe near 4th St. in West Hill.
4. Need tackifier change order requirements from Jack Yates. Describe scope in writing - Shumaker to quote.

DECISIONS MADE:

1. Additional excavation necessary before deciding on seep found at the top.
2. Oversized riprap is accepted but pay will be for 12 inch only.

ITEMS OF INFORMATION:

1. Trees are being placed in Shumaker sanitary landfill east of G.F.
2. Bales placed around cover dirt - low side.
3. Seep on north side may be a problem.
4. May be ready to top soil in 2 weeks.
5. Pay Estimate No. 1 signed.

6. Airport side fence location staked.

7. May be short of dirt.

Prepared by:

Jack Holland



THOMAS, DEAN & HOSKINS INC. ENGINEERING CONSULTANTS

1200 Twenty-Fifth Street South • Great Falls, Montana 59405 • (406) 761-3010 • FAX (406) 727-2872

July 26, 1994

RE: West Hill Sand and Gravel
Pit Reclamation

Shumaker Trucking
P. O. Box 1442
Great Falls, MT 59403

ATTENTION: Joe Aline

We have received your letter concerning request for a time extension, copy attached. There probably is not a way to confirm the quantities of material moved until the site is surveyed. We don't believe the design quantities have been reached.

We do not recommend a contract time extension at this time. You have already utilized Saturdays exceeding your planned 40 hour weeks - adding to inspection costs.

Remember your contract time expires on August 7, 1994. You should review Para. 3.6 of the Special Provisions.

Sincerely,

THOMAS, DEAN & HOSKINS, INC.



Jack Holland

mgo
Atch.
#93-23

cc: Jack Yates, w/Atch.
Tim Ranf, w/Atch.
Gary Franklin, w/Atch.





SHUMAKER TRUCKING & EXCAVATING CONTRACTORS, INC.

Havre Highway
P. O. Box 1442
Great Falls, MT 59403
(406) 727-3537 • Fax: 727-9995

July 18, 1994

Tim Ranf
Thomas, Dean & Hoskins, Inc.
1200 25th St. South
Great Falls, MT 59405

RECEIVED
THOMAS, DEAN & HOSKINS, INC.

JUL 19 1994

Envy. Struct. Municipal

Job No. 93-03 DR

Re: West Hill Sand & Gravel Pit Reclamation Project,
AMRB-DSL '93-M002

Dear Tim:

Please be advised that our subcontractor, Montgomery Construction has notified us that they feel they have reached the design quantity for excavation at this time. They have also requested an additional 6 weeks to complete the remaining excavation on the project.

Please let us know as soon as possible which direction we should proceed concerning this matter.

Sincerely,

Joe Aline,
Project Manager

MINUTES OF CONSTRUCTION CONFERENCE

Project: West Hill Sand & Gravel Pit Reclamation
Date: August 2, 1994
Location: Thomas, Dean & Hoskins, Inc.

Time: 1:00 PM

Attendees:

<u>Name</u>	<u>Company</u>	<u>Telephone #</u>
Jack Yates	DSL-AMRB	444-2074
Vic Andersen	DSL-AMRB	444-2074
Duane Shumaker	Shumaker Trucking	727-3537
Joe Aline	Shumaker Trucking	727-3537
Ken Burnham	Montgomery Construction	538-9811
Jack Holland	TD&H	761-3010
Tim Ranf	TD&H	761-3010
Gary Franklin	TD&H	761-3010

Discussion

1. Time Extension

- DSL agreed to a time extension of 6 weeks from August 14, which allows 3 weeks for Montgomery to complete their work and 3 weeks for Prairie Hydroseed to complete their work. This will make the completion date (for all work) of September 25, 1994.
- Burnham estimates about 320,000 CY of excavation/embankment for the project.
- Burnham noted that the upper seep prevents him from proceeding in that area due to the water. Ranf requested that Shumaker install upper lateral drain first to dry up that area and allow Montgomery to work. Shumaker agreed.

2. Change Order

- Change order items include:
 - Tackifier addition
 - Stormwater permit
 - Time extension
 - Crack mitigation
- Equipment rates for crack mitigation were accepted by DSL. Montgomery was directed to proceed with the work.
- Tackifier quotation of \$353.00 per acre accepted by DSL. Upon receipt of the written tackifier estimate. Yates to send letter granting permission to seed outside the specified dates.
- Ranf to prepare change order and forward to Aline.

3. Work directive changes to date

- Added lateral drains and discharge piping to mitigate seeps.
- Added construction of a widened bench below rock outcrop at baseline station 1+00.
- Added material stockpiled by United Materials at the top of the slope. Holland to provide a quantity to Shumaker.
- Discussed potential work for preparing site for future park. Possible items include moving seedling locations and widening areas along the intermediate slope ditches.

4. Other Items

- Discussed change of tree type. Will replace Russian Olive with Silver Leaf Buffalo Berry.



PRAIRIE HYDROSEEDING

Box 2100 • 1215 WEST 12th STREET • HAVRE, MT 59501



Bob, Bill Keeler
265-2476

August 1, 1994

Department of State Lands
Abandoned Mine Reclamation Bureau
Attn: Jack Yates
1625 Eleventh Ave
Helena, MT 59620

RECEIVED
THOMAS DEAN & HOSE
AUG 02 1994

AUG - 8 1994

STATE LANDS

Hwy. Struct. Municipal

Job No. TR 93-23

RE: West Hill Sand and Gravel Pit Reclamation Project, DSL/
AMRB 93-002

Dear Jack:

This letter is to confirm that Prairie Hydroseeding will guarantee and take responsibility of the seeding at this project if we are allowed to perform the permanant seeding prior to the October 15. This will eliminate the double procedure of summer erosion control and permanent seeding, since they both will be so close to each others dates of operation.

It is our firm belief, and because of our many years of reclamation, that this procedure will be as or more effective than the dates that are so close to winter.

If you have any questions or need more documentation, write or call.

Sincerely yours,

Bob Keeler
Partner

cc: Joe Aline



PRAIRIE HYDROSEEDING

Box 2100 • 1215 WEST 12th STREET • HAVRE, MT 59501

Bob, Bill Keeler
265-2476

August 1, 1994

Shumaker Trucking and Excavating Contractors
Attn: Joe Aline
Box 1442
Great Falls, MT 59403

RE: West Hill Sand and Gravel Pit Reclamation Project, DSL/AMRB
93-002

Dear Joe:

I have completed a final estimate for the summer erosion for this project. In conversations with Jack Yates and suppliers the following bid is given for the thirty nine (39) acres. Twelve (12) acres of flat area and twenty seven (27) acres of steep terrain that are to have tackifier place on top with a 500 pound per acre mulch to be used as a marker. Quoted as follows:

39 acres @ \$353.50 per acre = \$13,786.50.

If you have any questions, please call or write.

Sincerely yours,

Bob Keeler
Partner

cc: Jack Yates, DSL/AMRB

MINUTES OF PLANNING MEETING

Project: West Hill Sand & Gravel Pit Reclamation
Date: August 2, 1994
Location: Thomas, Dean & Hoskins, Inc.

Time: 1:00 PM

Attendees:

<u>Name</u>	<u>Company</u>	<u>Telephone #</u>
Jack Yates	DSL-AMRB	444-2074
Vic Andersen	DSL-AMRB	444-2074
Mike Zuhoski	Cascade County Park Board	277-3336
Roger Sanders	Cascade County Planning Board	454-6905
Bill Walters	City-County Planning Office	771-1180
Gary Stowe	City Park and Recreation Dept.	727-0172
Jon Thompson	City Park and Recreation Dept.	727-0172
Tim Ranf	TD&H	761-3010

Discussion

Conceptual plans were presented for a potential park site at the West Hill Reclamation Project. Three plans were presented:

1. Natural park with trails, trees, dryland grass, and picnic tables.
2. Sledding Hill.
3. Recreation park with soccer field, basketball and tennis courts and baseball diamond.

A combination of concepts 1 and 2 was overwhelmingly preferred due to low initial costs and low maintenance costs. Jon Thompson noted that the City currently has enough parks with playing fields to maintain but very few natural-type parks.

Bill Walters noted that, should the City annex the County parcels, the Airport can end up with ownership. Mike Zuhoski questioned whether a park at this location would meet FAA safety requirements. The park is within the noise contour restricted development area. It was generally felt that an open space land use such as this park would fit within these restrictions. TD&H will discuss these issues with Airport officials.

DSL stated their willingness to pay for Engineering costs for conceptual planning, planting mature trees this year, supplying bird houses from Helena Industries, and supplying about 1000 seedlings next year. It was noted that City and County could organize a group to voluntarily plant the seedlings.

Discussed park maintenance. The County has little budget or resources for park maintenance or development. They could basically supply a mower and operator to mow the grass once in a while. The City has more resources but not necessarily the manpower to maintain another park. The concept of a natural trail park is attractive because of the low maintenance costs.

It was noted that tall grass on the slope would help hold the snow in the winter, thus benefitting the sled runs. It was noted that, after one year or so of sledding on the hill, local residents and other City residents may see the potential of the park and be willing to raise money for development.

Mike Zuhoski requested that TD&H develop a plan with overlays to use in presentation to County officials. The idea would be to use overlays to illustrate the different phases of potential park development. Mike thought the County would be very interested, especially if we can convince them that the cost would be minimal. Jon and Gary expressed similar sentiments in regards to City Officials.

The immediate course of action will be to get verbal approval of the project from City and County and Airport officials. Once a verbal commitment is received, an agreement can be worked out amongst the various entities. The County Park Board meets Monday morning and the City Park Board meets Monday afternoon. Ranf will get plans to Roger Sanders and Gary Stoe for presentation at the meetings. If the overlays can't be completed in time for these meetings, colored prints will be supplied.

Tom gravel pit to park. Possibly

WAYNE ARNST
Tribune Staff Writer

A state reclamation project at the former West Hill Sand and Gravel pit may turn into a park in the park or Great Falls residents, according to plans developed by a local engineering firm.

Where sand and gravel was once collected, a long-range conceptual plan now calls for a walking trail, runs, picnic tables, trees and shrubs. The 39-acre plot of land is owned and controlled by the city, Cascade County and Great Falls International Airport.

In addition to a \$566,582 contract from Montana Department of State

Lands to reclaim the site below the airport, the state commissioned Thomas, Dean and Hoskins to draw plans for a park, said Tim Ranf, an engineer with the firm.

Trees and shrubs included in the plans would be furnished by the Department of State Lands as part of the reclamation, he said.

Trails and picnic tables would be paid for by park developers, Ranf said.

"We are just in the planning stage at this point," Ranf said. He has approached Great Falls, Cascade County and Airport officials who have expressed interest in the park, he said.

Monday, the Park and Recreation

See PARK, 2A

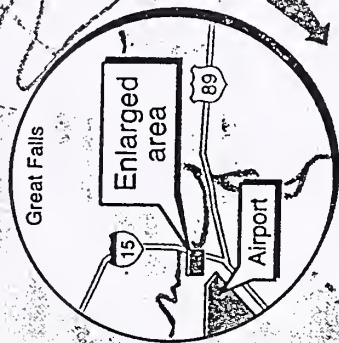
Board approved investigating having the city maintain such a park if one could be developed, said Jerry Sepich, director of the parks and recreation department.

Sepich said he plans to talk to airport officials because some of the property is controlled by the airport. The land also is in the flight path of aircraft, and Federal Aviation Administration rules for development near an airport have to be investigated, Sepich said.

The county parks board also considered the idea at its meeting this week, tabling the issue until it gets more information, said Roger Sand-

Proposed
West Hill Park

Approximate
limits of runway
approach zone
depicted in
yellow



To subscribe to the Tribune, call 791-1400 or 1-800-438-6

Park: Trying to keep it natural

FROM 1A

ers, the county planning director.

But the general idea is to keep the area a natural park so that maintenance costs would be low, Sanders said.

Joe Attwood, the airport manager, said earlier that he could be in

favor of the idea, depending on FAA regulations. He added that the area would make a good sledding hill.

A park that close to an airport isn't necessarily taboo, said Dave Stelling, state planner for airports with the FAA District Office in Helena.

"We would try to discourage any structures such as school buildings, but a walking park shouldn't be a problem at all," he said.

A final decision would depend on the plans for such a park, he said. "We haven't seen any proposal so couldn't say yes or no," he said. "We would have to reserve judgment until seeing it."

SACK:
THE TRIBUNE
ARTICLE... I DON'T
THINK THEIR SKETCH
DOES OUR RENDERING
JUSTICE.

[Handwritten signature]

CONTRACTOR'S CERTIFICATE OF COMPLETION

TO (Owner): MT Dept of State Lands DATE: November 11, 1994
Abandoned Mine Reclamation Bureau PROJECT TITLE: West Hill Sand & Gravel Pit
Reclamation Project
MONT A/E or DSL-AMRB: 93-002
ATTN: Engineer Thomas, Dean & Hoskins CONTRACT DATE: April 18, 1994
FROM: Shumaker Trucking & Excavating Contractors, Inc.
(Firm or Corporation)

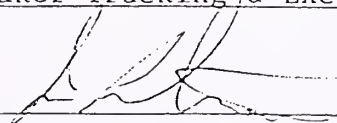
This is to certify that I, Joe Aline, am an authorized official of
Shumaker Trucking & Excavating Contractors, Inc., working in the
capacity of Sec./Treas. and have been properly authorized by said
firm or corporation to sign the following statements pertaining to the subject contract:

I know of my own personal knowledge, and do hereby certify, that the work of the contract described above has been performed, and materials used and installed in every particular, in accordance with, and in conformity to, the Contract Plans and Specifications.

The contract work is now complete in all parts and requirements and ready for your final inspection.

I understand that neither the determination of the Engineer that the work is complete nor the acceptance thereof by the Owner shall operate as a bar to claim against the Contractor under the terms of the guarantee provisions of the Contract Documents.

CONTRACTOR: Shumaker Trucking & Excavating Contractors, Inc

By: 
Joe Aline, Title
Sec./Treas.

Distribution: 1. Project Manager
2. Field Office
3. File

AFFIDAVIT ON BEHALF OF CONTRACTOR

STATE OF Montana)
COUNTY OF Cascade) : ss

MONT AVE or DSL-AMRB: 93-002

DATE: November 11, 1994

I certify to the best of my knowledge and belief that all work has been performed and materials supplied in strict conformance with the terms and conditions of the corresponding contract documents between MT Dept of State Lands/AMRB _____, the Owner, and Shumaker Trucking & Excavating, the Contractor, dated April 18, 1994 for the West Hill Sand & Gravel Pit Reclamation Project, Mont AVE or DSL-AMRB 93-002

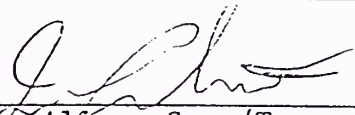
and further declare that all bills for materials, supplies, utilities, and for all other things furnished or caused to be furnished by the above-named Contractor and used in the execution of the above Contract have been fully paid, and there are no unpaid claims or demands of State Agencies, subcontractors, materialmen, mechanics, laborers or any others resulting from or arising out of work done or ordered to be done by said Contractor under the above-identified Contract, except for subcontractor claim concerning measurement & payment of bid item 2. and retainage.

In consideration of the prior and final payments made and all payments made for authorized changes, the Contractor releases and forever discharges the Owner from any and all obligations and liabilities arising by virtue of said Contract and authorized changes between the parties hereto, either verbal or in writing, and any and all claims and demands of every kind and character whatsoever against the Owner, arising out of or in any way relating to said Contract, and authorized changes, except for subcontractor claim concerning measurement & payment of bid item 2. and retainage.

This statement is made for the purpose of inducing the Owner to make Final Payment under the terms of the Contract, relying on the truth and statements contained therein.

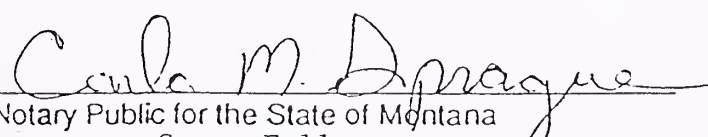
Dated this 11th day of November, 1994, at Great Falls, Montana.

CONTRACTOR: Shumaker Trucking & Excavating Contractors, Inc.

By: 
Title: Joe Aline, Sec./Treas.

Subscribed and sworn to before me this 11th day of November, 1994.

(SEAL)


Notary Public for the State of Montana
Residing at Great Falls
My commission expires 5/8/96

West Hill Pit Reclamation

Job # 93-23

July 26, 1994 ~ Toe Drain Repair

5. Subdrain = 6" CPE Discharge Pipe

Used for Repair ~ Orig. Agreement = 52.0 L.F.

Note: Letter of instruction called for 10 L.F. with length to be verified prior to replacement. Due to extensive damage to the pipe; it was necessary to install the amount shown.

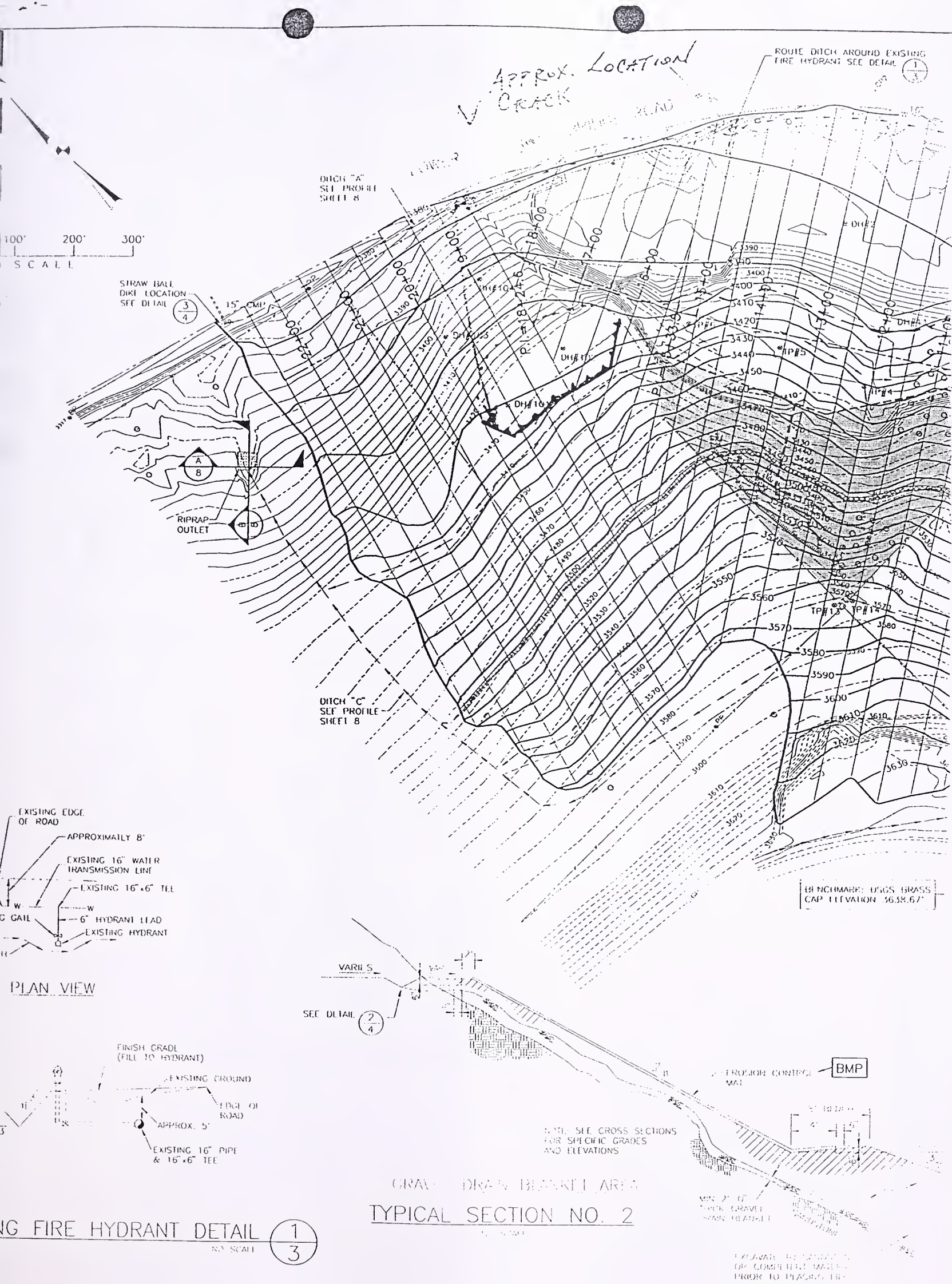
Further examination revealed the pipe at 3+33 or 218' from the beginning was originally installed 2.3' higher than planned elevation.

During this examination, more damaged pipe was found. This was removed & replaced to a point of grade that was intact and had good cover.

Additional for repair = 25.0 L.F.

Total for Repair = 77.0 L.F.

Insp: G. Franklin



7/26/94

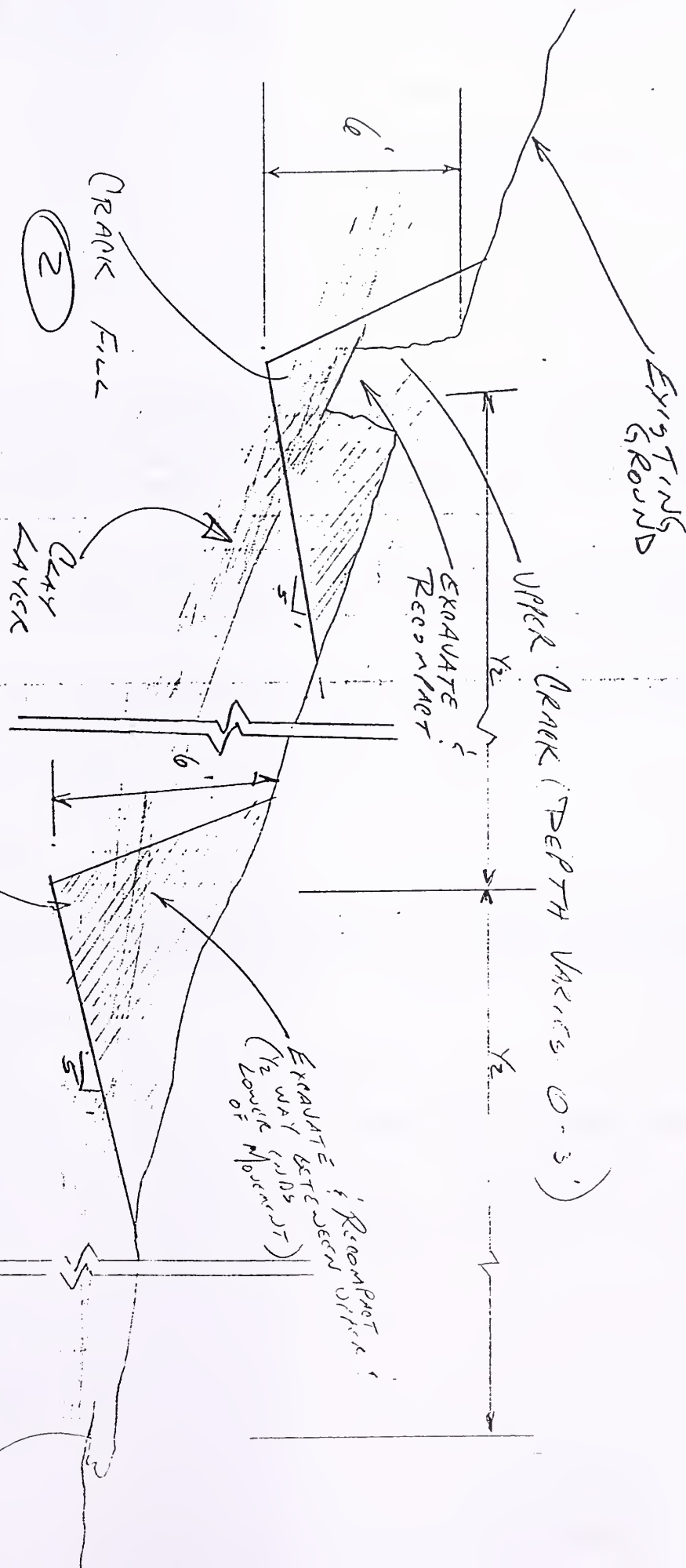
PIT RECLAMATION

RANF

CRACK/SLOPE MITIGATION

NOT TO SCALE

NOTE:
(Do Mid Slope Key 1ST)



APPROX. 200 LF CRACK FILL KEY } \Rightarrow ~360 CY /



THOMAS, DEAN & HOSKINS INC.

ENGINEERING CONSULTANTS

1200 Twenty-Fifth Street South • Great Falls, Montana 59405 • (406) 761-3010 • FAX (406) 727-2872

July 26, 1994

RE: West Hill Sand and Gravel
Pit Reclamation

Shumaker Trucking
P. O. Box 1442
Great Falls, MT 59403

ATTENTION: Joe Aline

Enclosed are drawings showing proposed seep and crack mitigation measures for the two major seeps encountered at the upper and lower ends of the project and for the crack/slide area in the northwest portion of the project. The crack mitigation involves excavation and recompaction through the slide area and at the crack to prevent future movement. The seep mitigation measures involve installation of additional lateral drain and additional discharge pipe at these two locations.

At the upper seep we would like to install about 211 feet of lateral drain (4" CPE slotted pipe, drain rock & drainage fabric) and 107 feet of 6" CPE discharge pipe. The 4 inch pipe would slope towards a tee connected to the 6 inch pipe. The 6 inch pipe would connect to the existing cutoff drain with a tee.

At the lower seep we would like to install about 100 feet of lateral drain and 290 feet of 6" CPE discharge pipe. The 4 inch pipe would slope towards a tee connected to the 6 inch pipe. The 6 inch pipe would discharge into the drainage ditch along Lower Sun River Bridge Road.

The total quantities required for these items are approximately as follows:

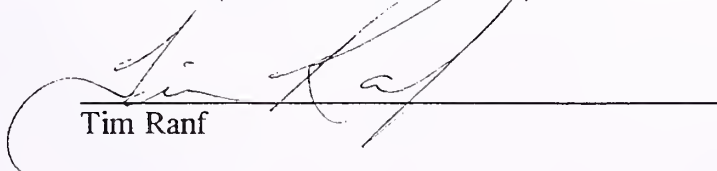
- lateral drain 311 feet
- 6" CPE pipe 397 feet

These items will be paid for at the bid price per lineal foot for 4" CPE Slotted Drain pipe and 6" CPE Discharge Pipe. The cost for the crack/slide mitigation could be paid for at the bid price for excavation/embankment or on a time and materials basis at the equipment bid prices in the proposal.

Please call if you have any questions.

Sincerely,

THOMAS, DEAN & HOSKINS, INC.

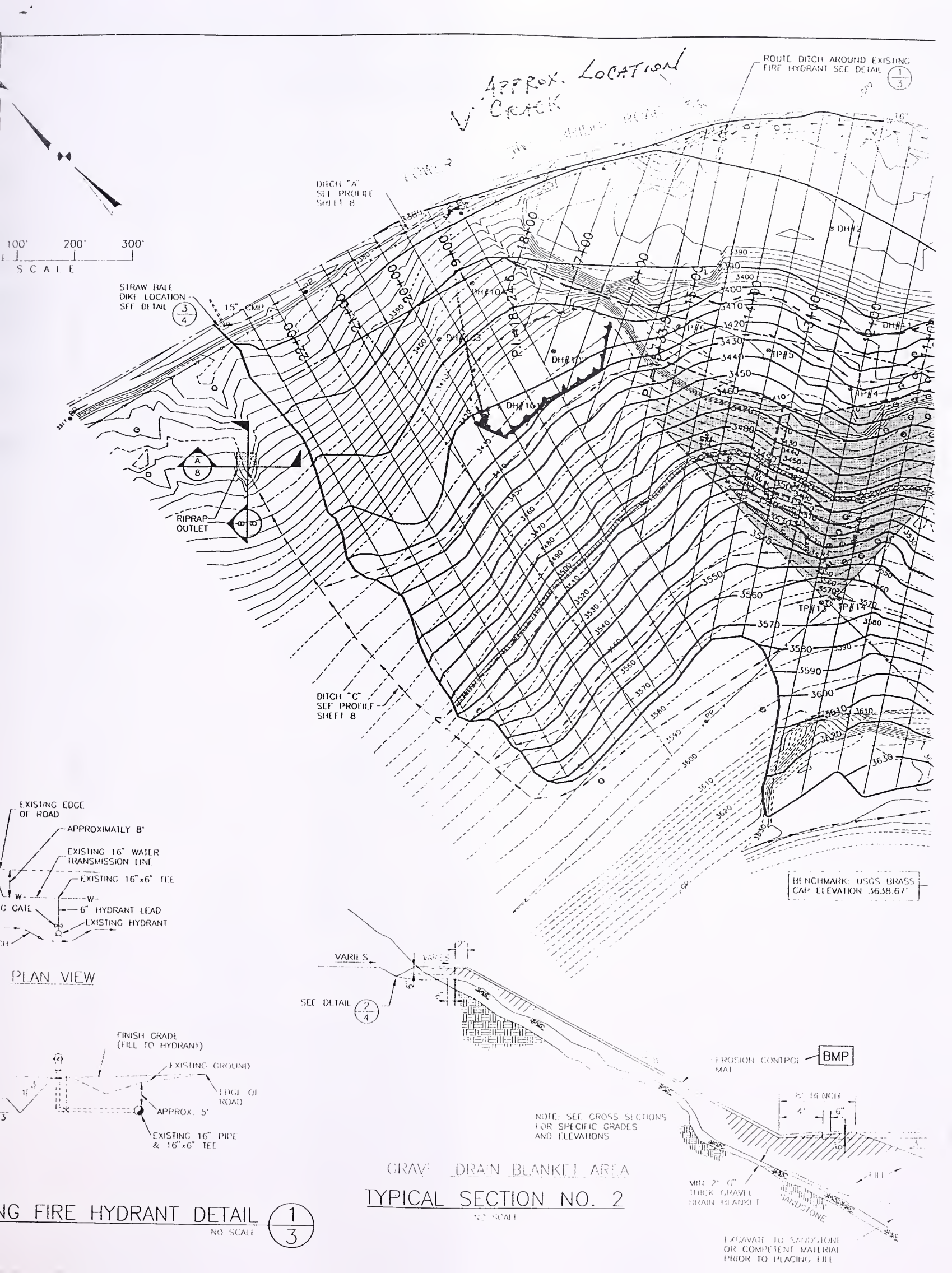

Tim Ranf

TR
encs.
#93-23

cc: Jack Yates, w/enc.
Jack Holland, w/enc.
Gary Franklin, w/enc.

✓TR



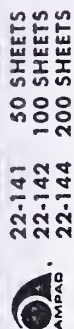


Not To Scale

Note: 310
(Do Not Discard Key 15T)

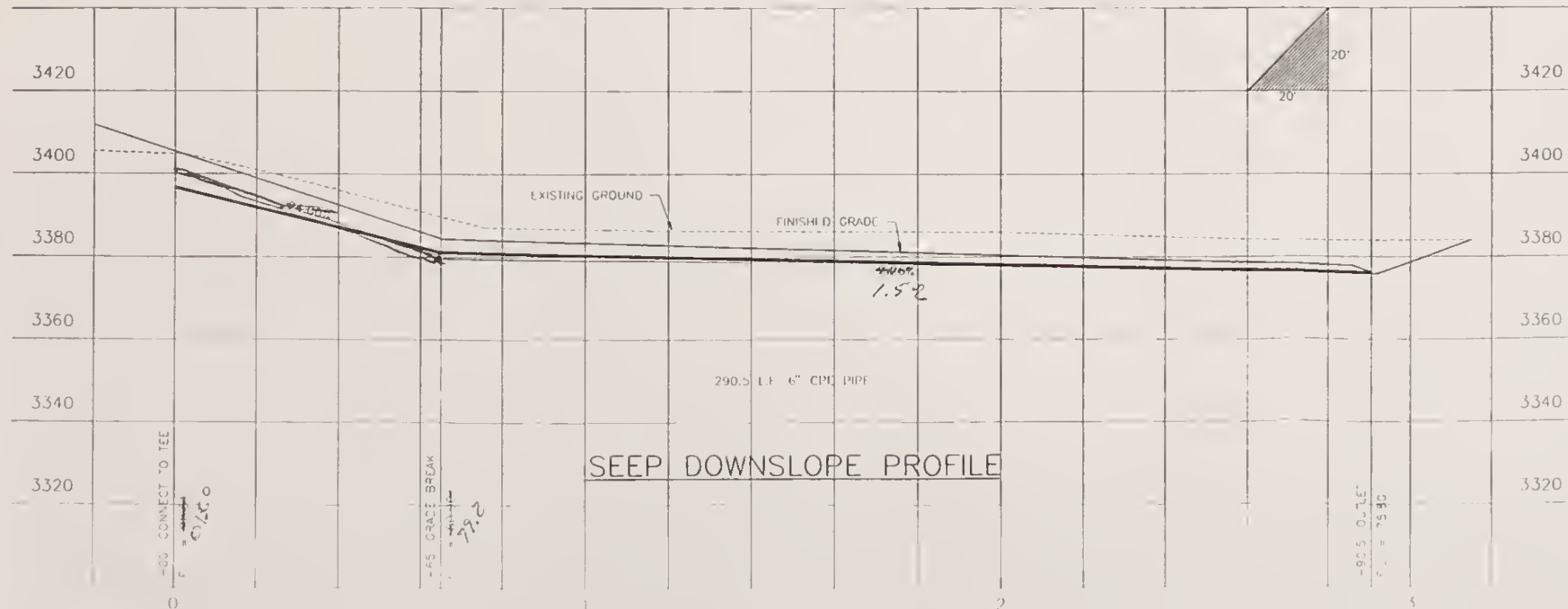
Approx. 200 LF Crap Fec $\approx \Rightarrow \approx 360 \text{ CY}$

Look
Limit
Of Mourning

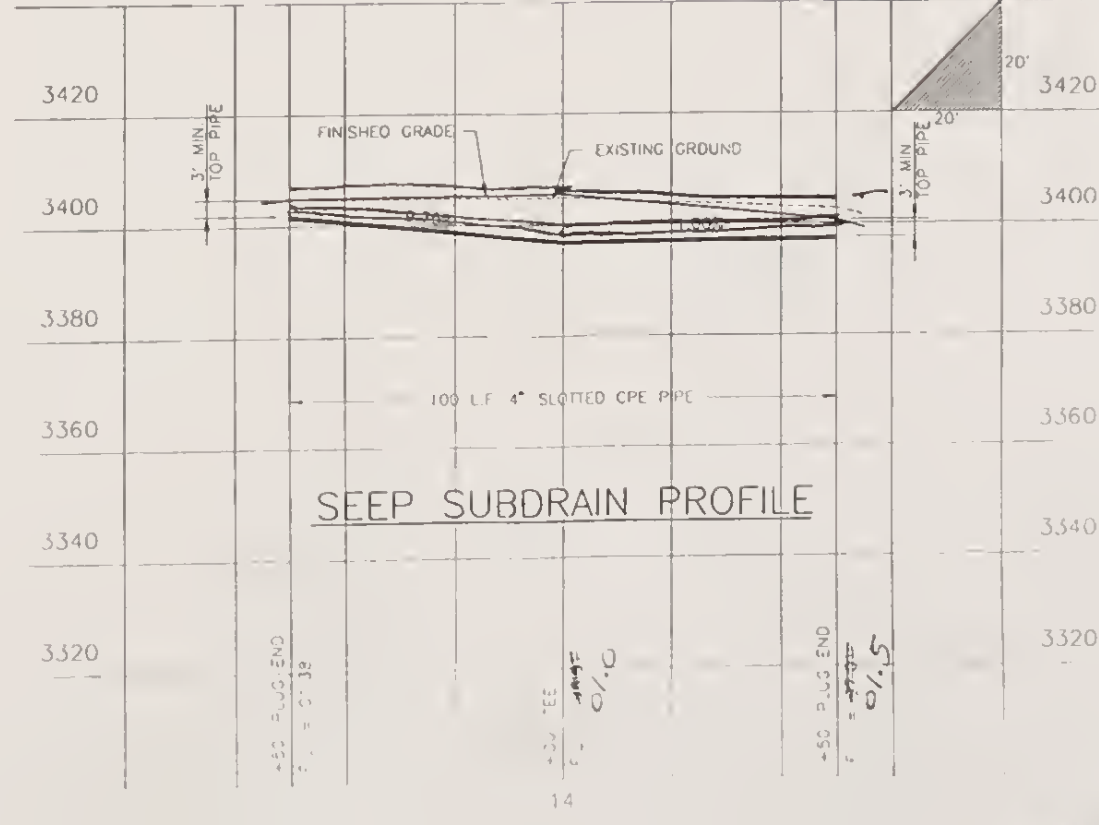




ALIGNMENT FOLLOWS CONTOUR OF SURFACE ELEVATION AT THE TEE.



SEEP DOWNSLOPE PROFILE



SEEP SUBDRAIN PROFILE

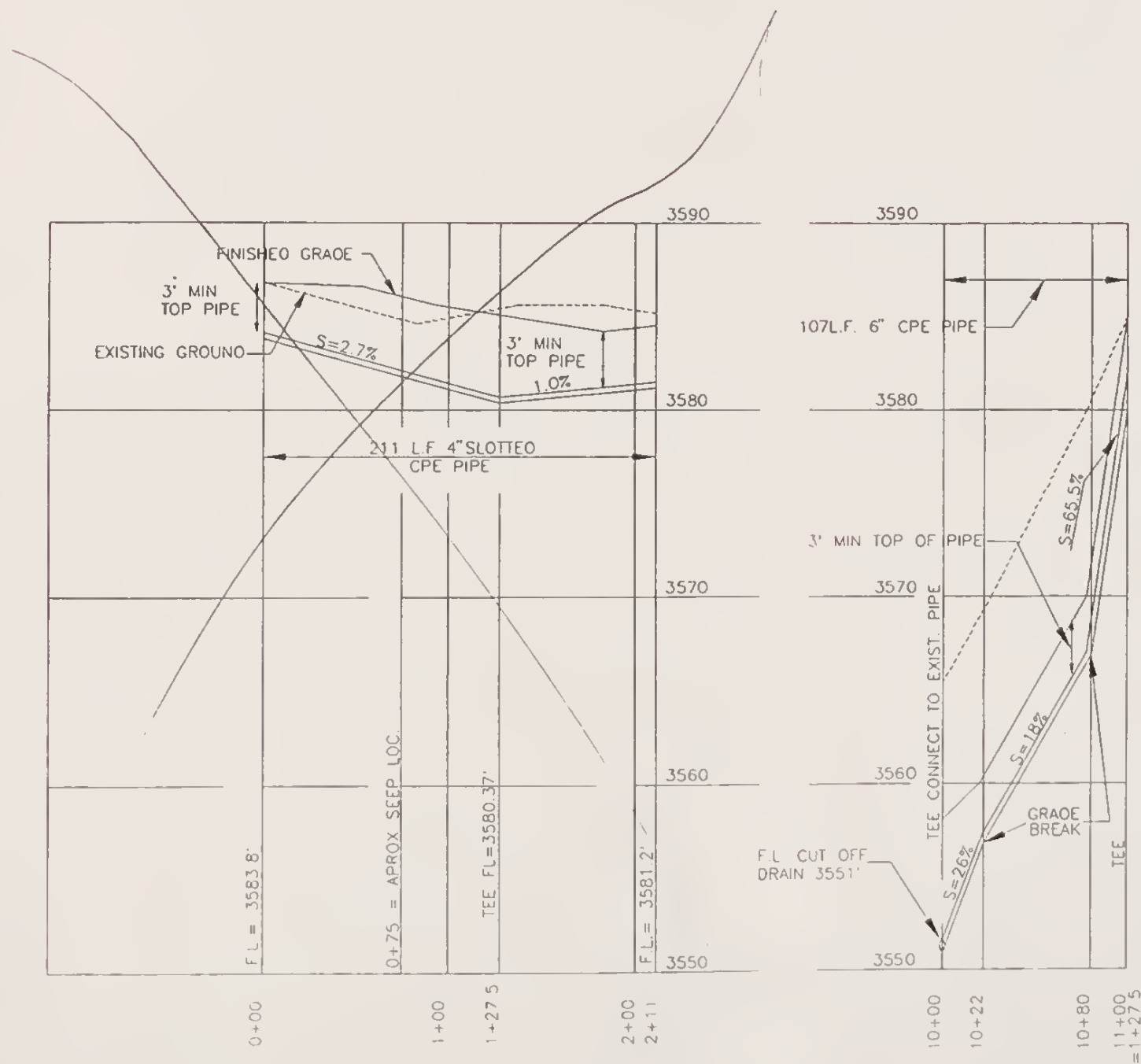
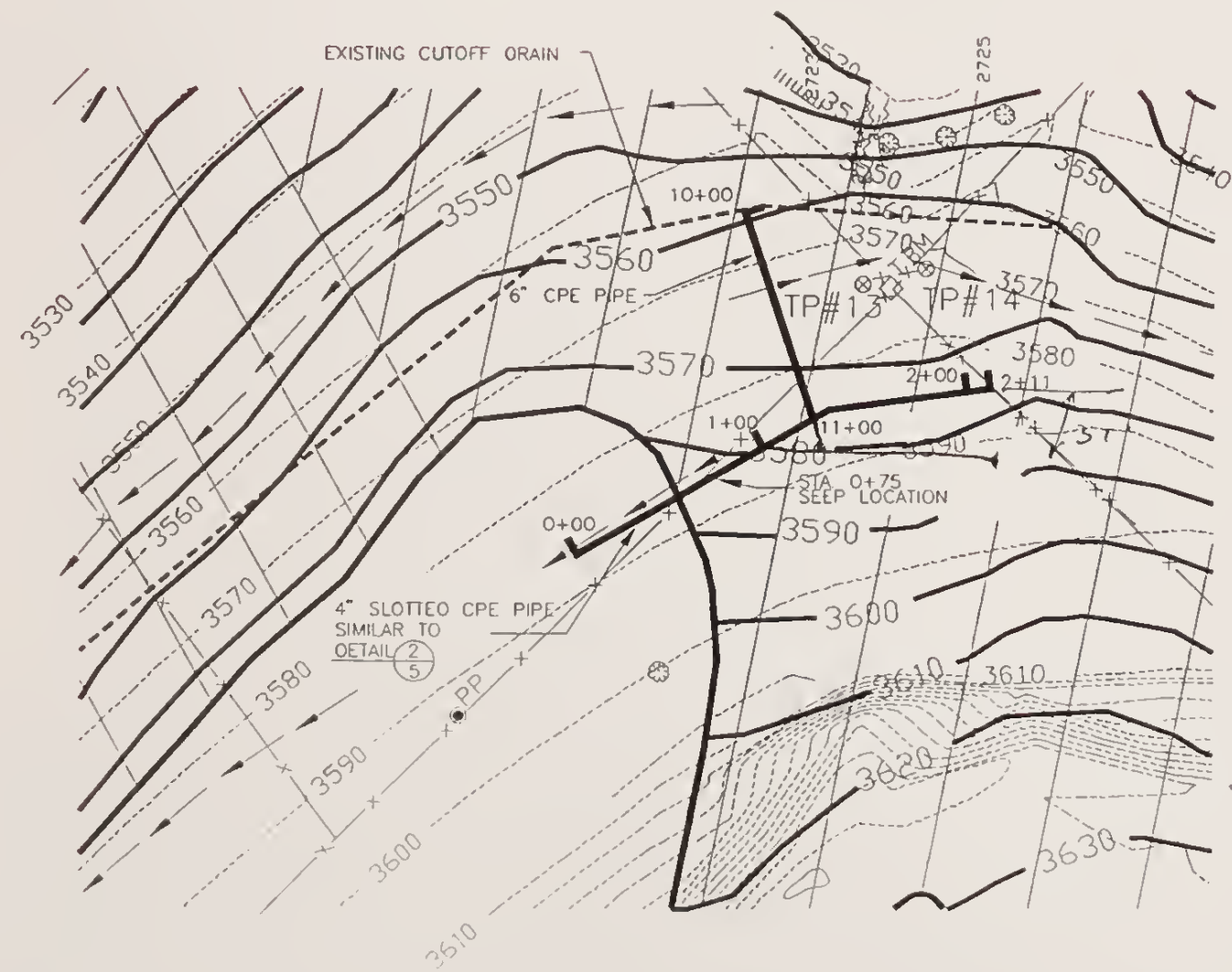
WEST HILL SAND & GRAVEL PIT RECLAMATION
GREAT FALLS, MONTANA

SEEP MITIGATION
LOWER SEEP INTERSECTOR

REVISIONS
BY DATE DESCR
BY DATE DESCR
BY DATE DESCR

DRAWN MWC DATE 7/26/94
DESIGNED TPR JOB NO. 93-23
APPROVED F.B. NO.
THOMAS, DEAN & HOSKINS INC
ENGINEERING CONSULTANTS
GREAT FALLS-BOZEMAN-KALISPELL
MONTANA
SPokane
LEWISTON
IDAHO



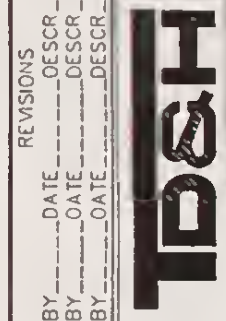


WEST HILL SAND & GRAVEL PIT RECLAMATION
GREAT FALLS, MONTANA

2

SEEP MITIGATION
UPPER SEEP INTERCEPTOR

2



THOMAS, DEAN & HOSKINS INC
ENGINEERING CONSULTANTS
GREAT FALLS - BOZEMAN - KALISPELL
SPokane - LEWISTON
MONTANA
WASHINGTON
IDAHO

DRAWN: G.C.C. DATE: 7/26/94
DESIGNED: T.P.R. JOB NO: 93-23
APPROVED: F.B. NO.

REVISIONS
BY: DATE: DESCR:
BY: DATE: DESCR:
BY: DATE: DESCR:

MEMO LETTER

TO: Joe Aline

Shumaker Trucking

FROM: Tim Ranf

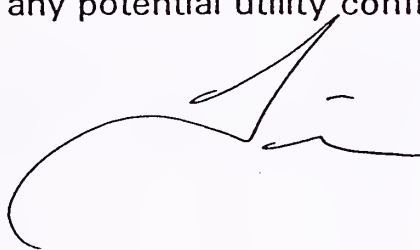
DATE: 9/15/94

JOB NO. 93-23

RE: West Hill Sand & Gravel Pit Reclamation Project - Ditch "A" Extension

Joe:

Enclosed is a copy of the excavation permit from Cascade County for constructing the roadside ditch and culvert closure at the northwest end of the project. As we discussed on the phone, you are authorized to proceed with the work at a lump sum cost of \$1,400.00 which does not include seed & fertilizer, mulch and tackifier. These items are part of the required additional work but will be paid for at the Contract unit prices for these items. As a reminder we need to stay off of Lee Janetski's land while performing this work and you need to contact the utility companies for any potential utility conflicts.



cc: ~~Jack~~ Jack Yates
Jack Holland
Gary Franklin
✓ File



THOMAS, DEAN & HOSKINS, INC. 1200 - 25th Street South, Great Falls, Montana
Phone: (406) 761-3010 FAX: (406) 727-2872

P E R M I T

FOR

EXCAVATION IN COUNTY ROAD ROAD R/W

FROM

CASCADE COUNTY, MONTANA

Fee \$10.00

Surety Deposit \$ FEE WAIVED

Permit No. 987

Date: 9/9/94

Location or Purpose of Permit: SE 1/4 Sec. 9 T20 N R3E Lower Sunriver Bridge Road

Ditch Excavation & Culvert Closure - West Hill Sand & Gravel Pit Reclamation Project

Name of Permittee: Montana Dept. of State Lands

Address: 1625 11th Avenue, Helena, MT 59620

The permittee mentioned in this instrument, hereby accepts this permit, together with all of the terms and conditions as set forth in his application and in the resolution attached hereto.

APPROVED FOR CASCADE COUNTY BY
CASCADE COUNTY SURVEYOR

Wayne W. Dean FOR
Wayne W. Dean, P.E.

DATED THIS 9TH day of September, 1994

APPLICATION
FOR
EXCAVATION PERMIT
FROM
CASCADE COUNTY, MONTANA

Road, Street, or Alley Lower Sun River Bridge Road Application No. 987

Name of Applicant Montana Dept. of State Lands Phone No. 444-2074

Address 1625 11th Avenue, Helena, MT 59620

Purpose of Excavation Improve drainage along the south side of the
county road.

Location of Excavation: SE 1/4 Section 9 T20 N R3E

Dimensions of Excavation: V-ditch: 1 to 2 feet deep, 25 feet wide, 540 feet long

For how long a period is permit desired (give dates) 9/12 - 9/30/94

FILE PLAT IF REQUIRED

Applicant must notify the Cascade County Surveyor's Office twenty-four (24) hours prior to start of excavation and within twenty-four (24) hours upon completion for final inspection.

ALL tanks, pipes, conduits, ducts, or tunnels will be at least _____ feet under the gutter grade of County road.

It SHALL be the responsibility of the applicant to notify all utility companies prior to excavation.

In consideration of granting of this application, it is agreed by the applicant that Cascade County and any officer or employee thereof shall be saved harmless by the applicant from any liability or responsibility for any accident, loss or damage to persons or properties, happening or occurring as the result of any of the work undertaken under the terms of this application and the permit which may be granted in response thereto, and that all of said liabilities are hereby assumed by the applicant.

It is further agreed that if any part of this installation interferes with the future use of the county road by the general public, it must be removed or relocated, as designated by the Cascade County Surveyor, at the expense of the permittee or his successor(s) in interest.

Date: 9/7/94
Replace in Kind
Wally J. Cook

[Signature]
Applicant for DSL

FACSIMILE COVER SHEET

Thomas, Dean & Hoskins, Inc.
1200 25th Street South
Great Falls, MT 59405
Phone: (406) 761-3010

FAX NUMBER
(406) 727-2872

TD&H JOB #:	93-23	DATE:	9/08/94
NAME OF PROJECT:	West Hill Sand & Gravel Pit		
ATTENTION:	Joe Aline	FROM:	Tim Ranf
COMPANY:	Shumaker Trucking & Excavating		T D & H
FAX NUMBER:	727-9995		
# Pages:	1		
SENT BY:			

REMARKS:

Joe:


Enclosed is a drawing showing a proposed ditch extension along Lower Sun River Bridge Road at the NW end of our project. The work involves plugging the existing 15" CMP culvert (Ditch "A" Station 10+00), cutting a ditch to the northwest along the road and filling the ditch to the southeast of the culvert. The maximum cut depth is about 2 feet. The work is necessary because the landowner below (East of) the 15" CMP has plugged the culvert and threatened lawsuit if any stormwater or sediment from our project gets onto his property. I have estimated the following quantities for the work:

- 350 cubic yards excavation;
- 530 lineal feet of cut ditch;
- 230 lineal feet of fill ditch;
- 0.5 acres revegetation (seed, fertilizer, mulch, tackifier); and
- 0.1 cubic yards of concrete for culvert plug.

The Department of State Lands would like a lump sum price for your company to perform the work under your current contract. Jack Yates will be calling you this afternoon to discuss it with you.

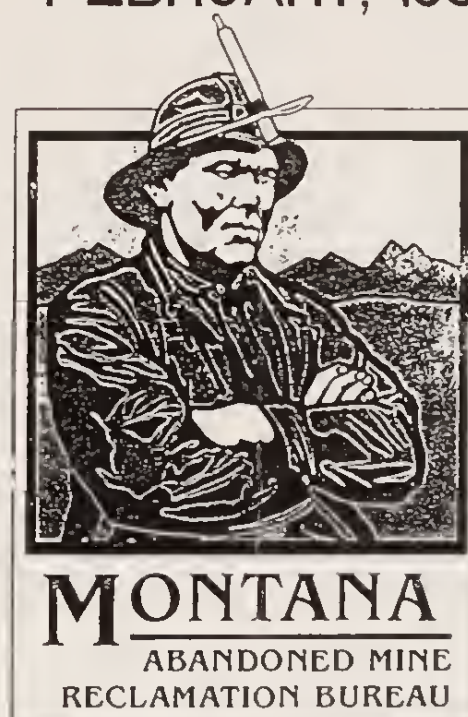
We will obtain the excavation permit from the County and are in contact with the landowner north of the County lands. Shumaker would be responsible for contacting utilities for potential underground utility conflicts in the area of excavation.

Call me if you have any questions



ATTACHMENT 6: AS-BUILT DRAWINGS

WEST HILL SAND AND GRAVEL PIT RECLAMATION
PROJECT NO: DSL-AMRB NO. 93-002
FEBRUARY, 1994



A circular professional engineer seal for the State of Montana. The outer ring contains the text "MONTANA" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. The center of the seal contains the text "TIMOTHY P. RAME", "NO. 074226", and "REGISTERED" in a smaller font.

DRAWN _____ TWL _____ DATE 2/94
DESIGNED _____ TFR _____ JOB NO. 93-23
APPROVED _____ DJZ _____ FB NO. 751

REVISIONS

BY	CAL DATE	5/6/94	DE SCR	EXISTING	IQFO
BY	FEC DATE	11/4/94	DE SCR	RECORD	DWG.
BY	_DATE_	_DE SCR_			

THOMAS ENGINEERING GREAT FALLS

WEST HILL SAND & GRAVEL PIT RECLAMATION
GREAT FALLS, MONTANA

COVER SHEET

26	1
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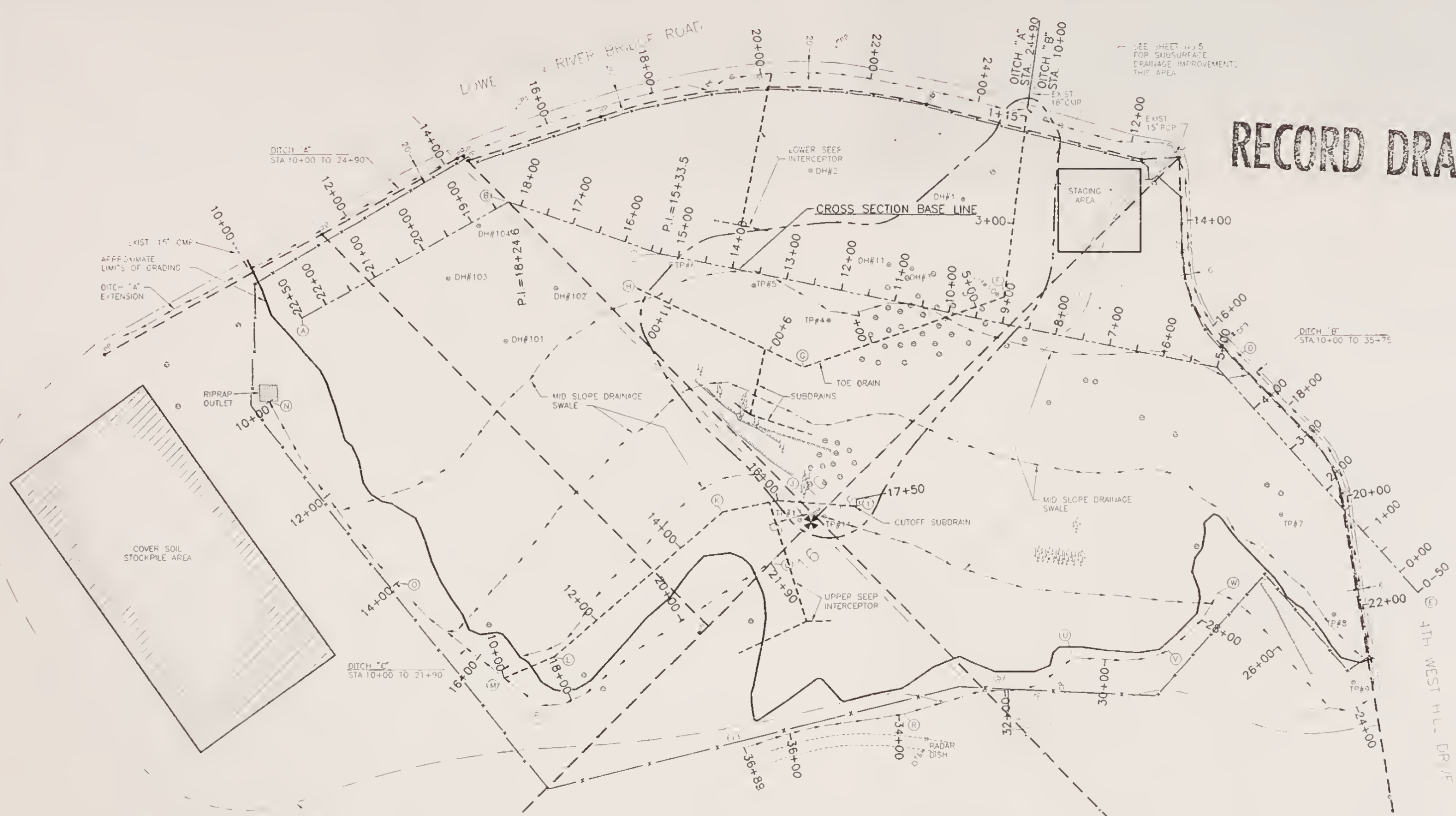
CPE	CORRUGATED POLYETHYLENE
FL	FLOW LINE
MIN	MINIMUM
EXIST, EX	EXISTING
' , FT	FEET
' , IN	INCHES
CMP	CORRUGATED METAL PIPE
GB	GRADE BREAK
EOA	EDGE OF ASPHALT
EL	ELEVATION

NEW CONTOURS (10' INTERVAL)
EXIST CONTOURS (10' INTERVAL)
EXIST CONTOURS (2' INTERVAL)
FINISH GRADE ELEVATIONS
BASELINE
CATCH LIMITS
PROPERTY LINE
PROPERTY PIN (PP)
SPRING OR SEEP
TOP SANDSTONE RIDGE
BASE SANDSTONE RIDGE
EXIST TREE
EXIST FENCE AND GATE
NEW FENCE
DRILL HOLE(DH) OR TEST PIT (TP)
EXISTING CULVERT
NEW CULVERT
EXIST EDGE OF ASPHALT
EXISTING GRAVEL ROAD
NEW DITCH
EXIST FIRE HYDRANT
EXIST WATER VALVE
CONTROL POINT (CP)
SECTION CORNER
DRAINAGE POINT
NEW DRAINAGE
DRAINAGE

PAGE	DESCRIPTION
1	COVER SHEET
2	LAYOUT PLAN
3	GRADING AND DRAINAGE PLAN
4	STORMWATER & EROSION CONTROL PLAN
5	SUBSURFACE DRAINAGE PLANS & DETAILS
6	PLANTING AND FENCING PLAN
7	TOE DRAIN PROFILE
7A	DITCH "A" EXTENSION, UPPER & LOWER SLEEP INTERCEPT
8	DITCH "A" & "C" PROFILES AND DETAILS
9	DITCH "B" AND CUTOFF SUBDRAIN PROFILES
CROSS SECTIONS	
10	STA 0+00 THRU 1+50
11	STA 2+00 THRU 4+00
12	STA 5+10 THRU 6+00
13	STA 6+50 THRU 7+50
14	STA 8+00 THRU 9+50
15	STA 10+00 THRU 12+50
16	STA 13+00 THRU 14+50
17	STA 15+00 THRU 16+50
18	STA 17+00 THRU 18+50
19	STA 19+00 THRU 20+50
20	STA 21+00 THRU 22+50
21	STA 23+00 THRU 24+50
22	STA 25+00 THRU 26+50



RECORD DRAWINGS

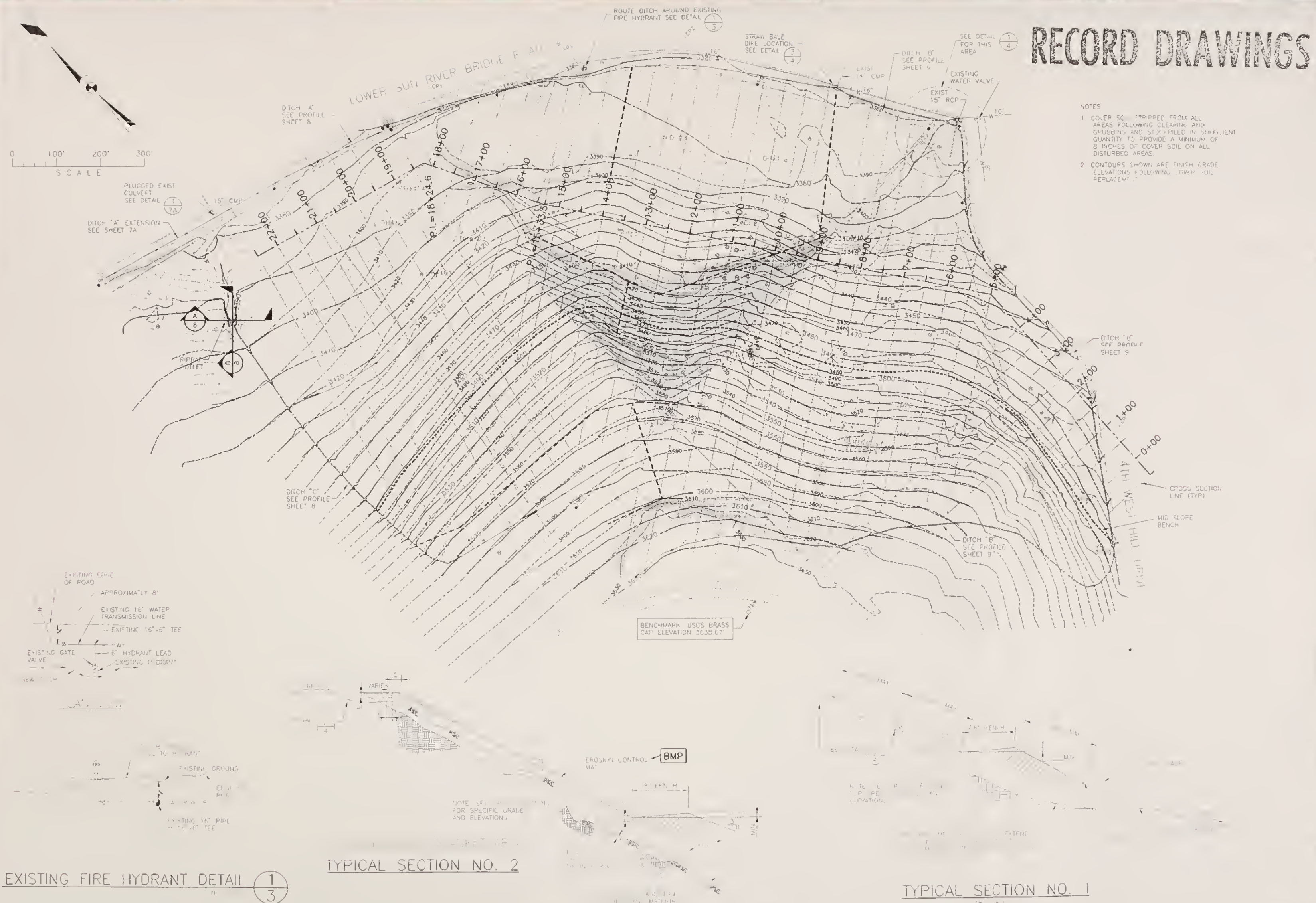


CONTROL POINT INFORMATION

CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	1338.71	1048.94	3382.52	REBAR IN PAVEMENT
CP2	2049.88	1628.55	3381.47	REBAR IN PAVEMENT
CP3	1531.21	2352.29	3415.14	CENTERLINE MONUMENT

STAKE POINT INFORMATION

STAKE	NORTHING	EASTING	STATION	DESCRIPTION
A	1560.17	663.77	22+50	CROSS SECTION BASE LINE
B	1769.03	1035.36	18+24	CROSS SECTION BASE LINE
C	1674.55	1308.41	15+33	CROSS SECTION BASE LINE
D	1471.07	2323.78	5+00	CROSS SECTION BASE LINE
E	1063.19	2632.21	0+50	CROSS SECTION BASE LINE
F	1599.03	1933.84	4+45	TOE DRAIN (2 BEND)
G	1470.94	1568.53	8+32	TOE DRAIN (2 BEND)
H	1613.11	1268.20	11+65	END TOE DRAIN
I	1220.54	1664.58	17+50	CUT OFF SUBRAIN
J	1230.79	1522.08	16+00	CUT OFF SUBRAIN
K	1210.62	1423.43	14+00	CUT OFF SUBRAIN
L	949.06	1119.42	10+92	CUT OFF SUBRAIN
M	911.65	1026.11	10+6	INTERSECTION
N	1409.94	606.27	10+00	REBAR IN PAVEMENT
O	1082.80	834.89	14+00	DITCH
P	961.06	1701.91	17+47	DITCH
Q	1111.42	151.48	21+4	END OF
R	940	170	2+4	CUT
S	929.71	1911.9	2+4	CUT
T	929.71	1911.9	2+4	CUT
U	929.71	1911.9	2+4	CUT
V	929.71	1911.9	2+4	CUT
W	929.71	1911.9	2+4	CUT
X	929.71	1911.9	2+4	CUT
Y	929.71	1911.9	2+4	CUT
Z	929.71	1911.9	2+4	CUT



RECORD DRAWINGS

- NOTES
- 1 COVER SOIL STRIPPED FROM ALL AREAS FOLLOWING CLEARING AND GRUBBING AND STOCKPILED IN SUFFICIENT QUANTITY TO PROVIDE A MINIMUM OF 8 INCHES OF COVER SOIL ON ALL DISTURBED AREAS.
 - 2 CONTOURS SHOWN ARE FINISH GRADE ELEVATIONS FOLLOWING COVER SOIL REPLACEMENT.

DRAWN: TWC/CA DATE: 2/94 DESIGNED: TPR JOB NO. 93-23 APPROVED: DJL FB NO. 254	
THOMAS, DEAN & HOSKINS INC. ENGINEERING CONSULTANTS GREAT FALLS - BOZEMAN - KALISPELL MONTANA WASHINGTON	
WEST HILL SAND & GRAVEL PIT RECLAMATION GREAT FALLS, MONTANA	
GRADING AND DRAINAGE PLAN	
26	3

SECTIONAL VIEW
TOE DRAIN DETAIL
NO SCALE

SECTIONAL VIEW

CUTOFF SUBDRAIN DETAIL

NO SCALE

4
5

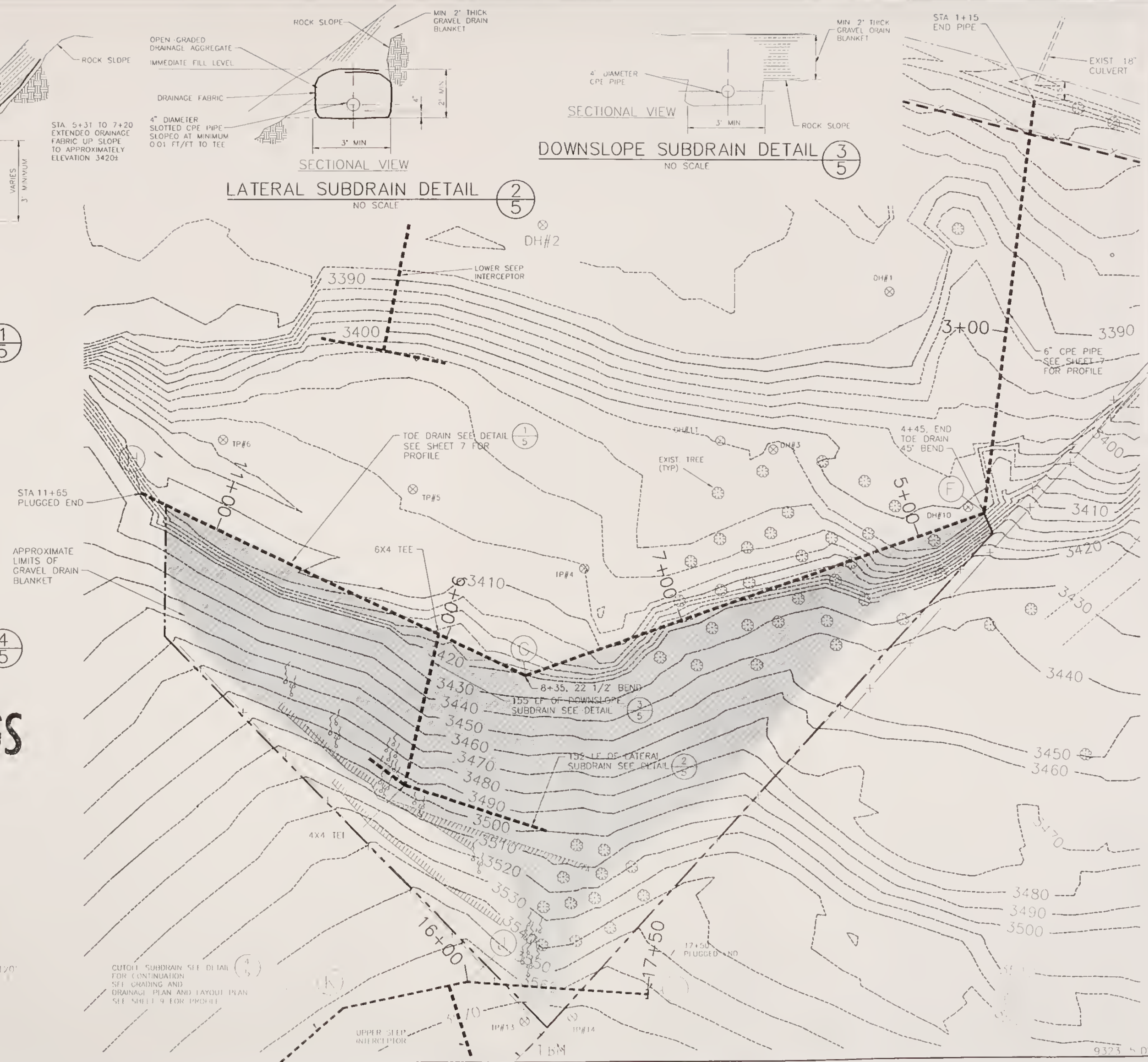
LATERAL SUBDRAIN DETAIL

NO SCALE

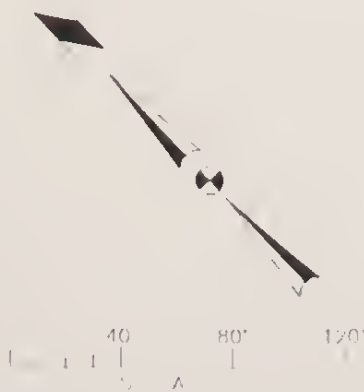
(2/5)

DOWNSLOPE SUBDRAIN DETAIL
 3
5

 NO SCALE



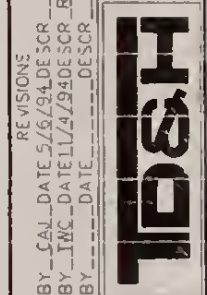
RECORD DRAWINGS



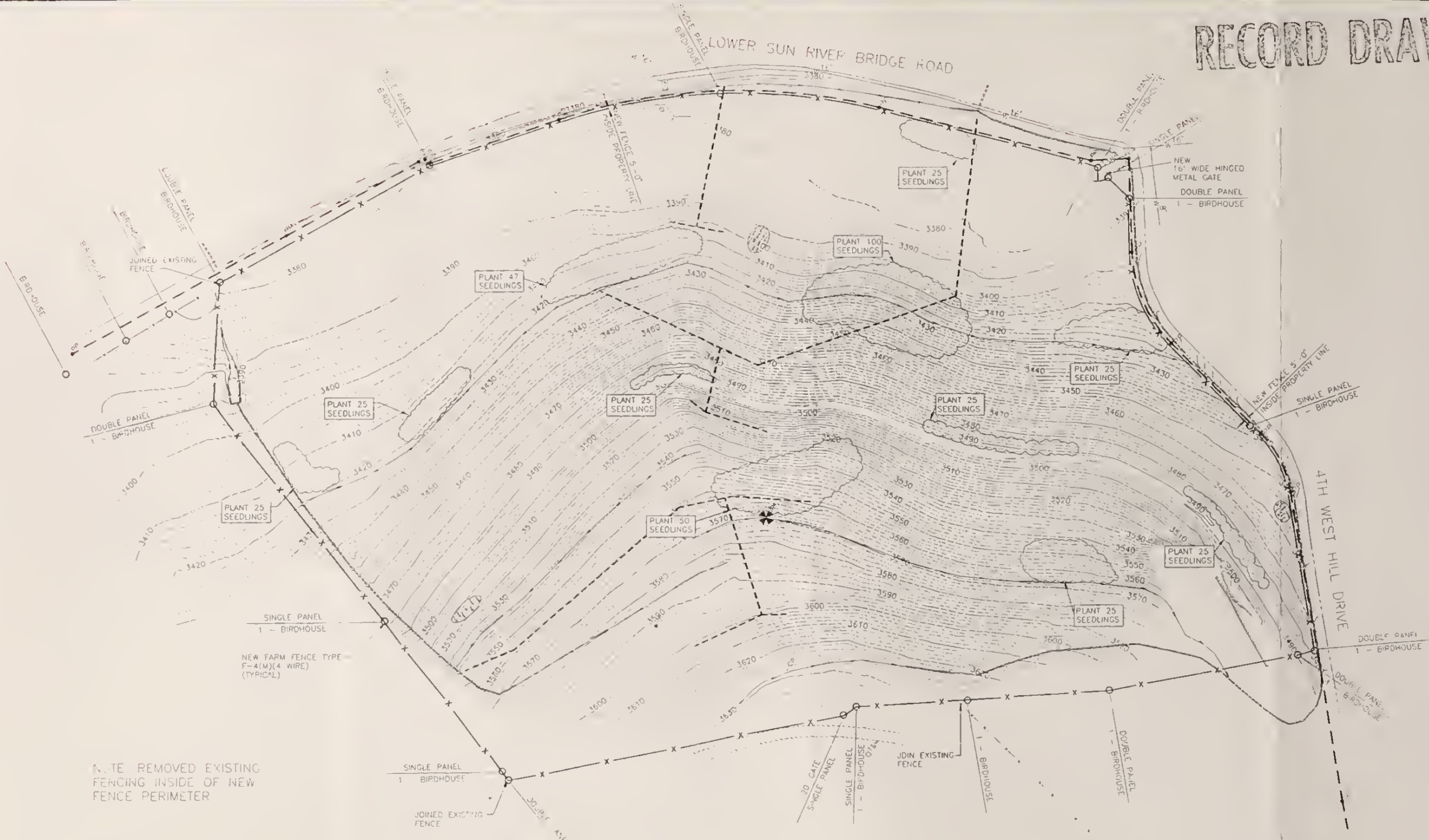
RECORD DRAWINGS



THOMAS, DEAN & HOSKINS INC
ENGINEERING CONSULTANTS
GREAT FALLS - BOZEMAN - PALISADES
MONTANA WASHINGTON SPOKANE



WEST HILL SAND & GRAVEL PIT RECLAMATION
GREAT FALLS, MONTANA
PLANTING AND FENCING PLAN
FINISHED TOPOGRAPHY



TOTAL QUANTITIES

NEW FENCE	1582 LF
NEW GATE	1 EACH
SEEDLINGS	197 EACH

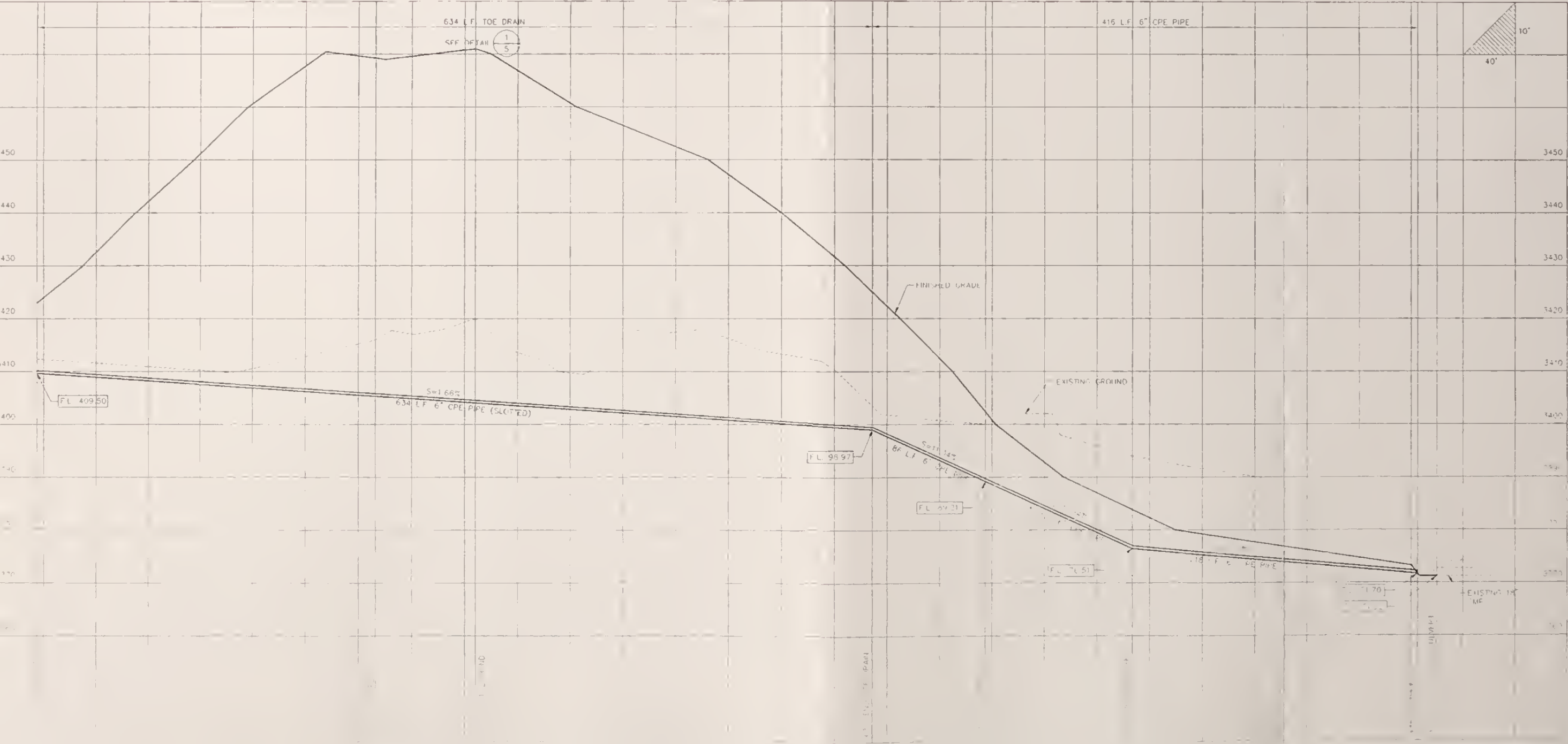
RECORD DRAWINGS

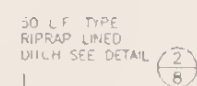
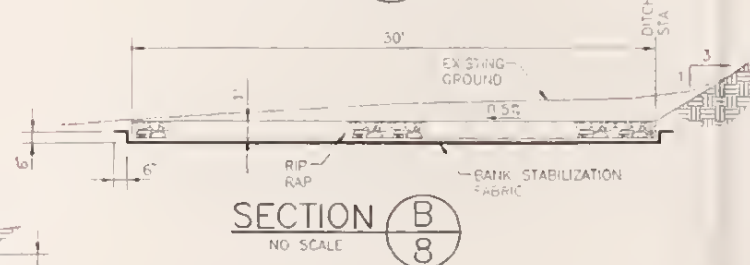
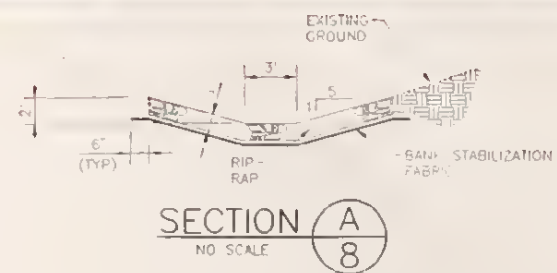


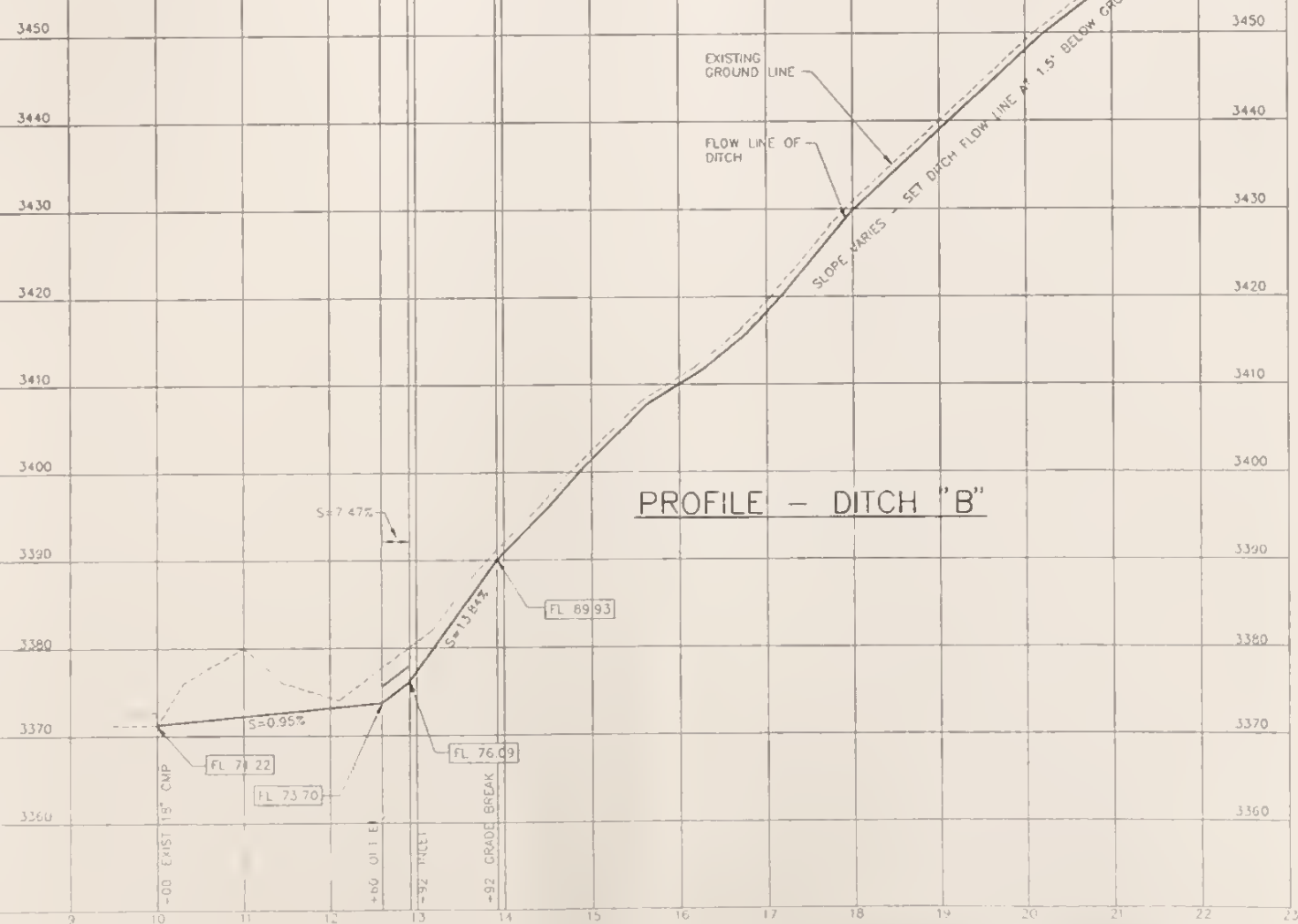
THOMAS, DEAN & HOSKINS INC
ENGINEERING CONSULTANTS
GREAT FALLS - BOZEMAN - PALISADE - SPOKANE
MONTANA
WASHINGTON



WEST HILL SAND & GRAVEL PIT RECLAMATION
GREAT FALLS, MONTANA
TOE DRAIN PROFILE



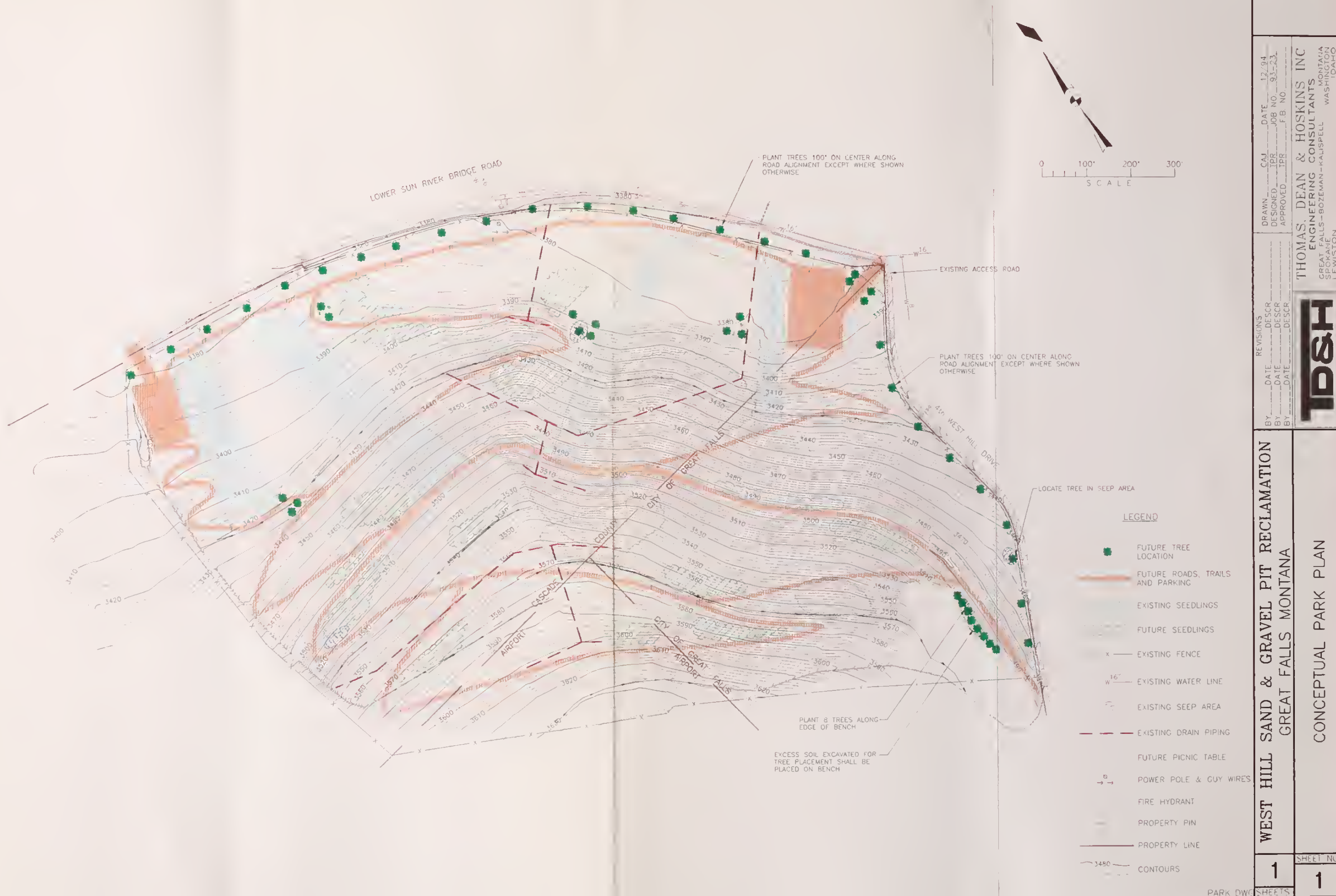




RECORD DRAWINGS



ATTACHMENT 7: CONCEPTUAL PARK PLAN



REVISIONS	DATE	DESCR	BY
	DATE	DESCR	BY
DRAWN: CAJ DATE: 12/94			
DESIGNED: TPR JOB NO. 93-23			
APPROVED: TPR F.B. NO.			
THOMAS, DEAN & HOSKINS INC			
ENGINEERING CONSULTANTS			
GREAT FALLS - BOZEMAN - KALISPELL			
MONTANA			
SPOKANE			
WASHINGTON			
IDAHO			

WEST HILL SAND & GRAVEL PIT RECLAMATION	
GREAT FALLS MONTANA	
CONCEPTUAL PARK PLAN	
1	SHEET NO.
1	1

PARK DWA SHEETS

ATTACHMENT 8: PHOTOGRAPHS AND SLIDES

WEST HILL SAND & GRAVEL PIT RECLAMATION PROJECT
DSL AMRB 93-002
PHOTOGRAPH DESCRIPTION

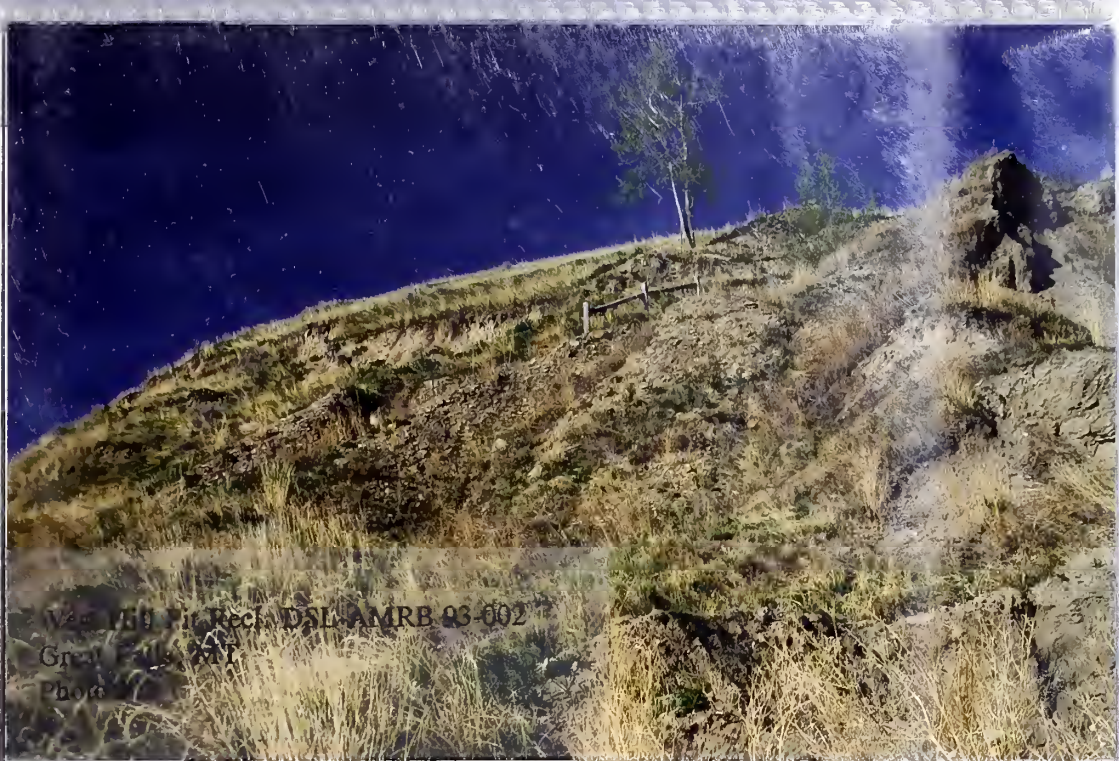
<u>Photo #</u>	<u>Description</u>
1	Pre-Reclamation - Trees & wet area below abandoned gravel pit
2	Pre-Reclamation - City sand pit facing west
3	Pre-Reclamation - South of City sand pit
4	Pre-Reclamation - City sand pit - south end
5	Pre-Reclamation - City sand pit - facing northwest
6	Pre-Reclamation - From above City sand pit area - facing east
7	Pre-Reclamation - Bench - wet area below abandoned gravel pit
8	Pre-Reclamation - From entrance gate - facing southwest towards City sand pit
9	Pre-Reclamation - From entrance gate - facing south
10	Pre-Reclamation - From near entrance gate facing NW along Lower Sun River Bridge Road
11	Pre-Reclamation - From top of hill at Airport stockpile - facing north
12	City sand pit area facing southeast
13	Cover soil stripping - southeast end project
14	Clearing & grubbing - tree removal below abandoned gravel pit
15	Airport stockpiled material at top of hill
16	Cover soil stripping - west end of project facing southwest
17	Cover soil stripping - west end of project facing south
18	Dozer stuck stripping cover soil near top of hill - Sta \approx 11+50 - seep encountered
19	Ditch "C" prior to riprap - west end project
20	Ditch "B" prior to riprap - southeast end project
21	Cover soil stripping & stockpile at west end of project
22	Cover soil stripping at upper end project - Sta \approx 12+00
23	Cover soil stripped at lower end project along Lower Sun River Bridge Rd.
24	Cover soil stripping on existing bench - \approx 14+50
25	Compacting over cutoff subdrain
26	Surveying grade & excavating for cutoff subdrain installation
27	Backfill & compaction over cutoff subdrain
28	Backfill & grading over cutoff subdrain
29	Installation of discharge pipe for toe drain
30	Compaction & installation of discharge pipe for toe drain
31	Clearing/grubbing & cover soil stripping at low end project
32	Excavation & embankment at lower end project
33	Excavation & embankment at lower end project
34	Ditch "B" prior to riprap - Sta. 24+00 at southeast corner of project
35	Placing riprap in Ditch "B" Sta 20+00
36	Excavation & embankment - facing northeast towards intersection 4th West Hill Drive & Lower Sun River Rd.
37	Hand placing riprap - upper end Ditch "C" Sta 17+00

<u>Photo #</u>	<u>Description</u>
38	Riprap in Ditch "B" upper end facing west
39	Backfilling culvert at project entrance
40	Placing drain rock in toe drain
41	Toe drain installation
42	Excavation just west of project entrance
43	Placement of fill baseline Sta 10+00 to 15+00
44	Excavation west of 4th West Hill Drive
45	Excavation at lower end project
46	Compaction of fill - baseline Sta 10+00 to 15+00
47	Excavation at lower end project - wet area where seep encountered
48	Grading/compaction of fill - baseline Sta 10+00 to 15+00
49	Placement of pit run gravel for gravel drain blanket
50	Gravel drain blanket & filter fabric - baseline Sta \approx 10+50
51	Cover soil stripping prior to placement of gravel drain blanket
52	Excavation at west end project
53	Fill compaction/watering - baseline Sta 10+00 to 15+00
54	Excavation along Lower Sun River Bridge Road - facing west
55	Excavation near sandstone - baseline Sta \approx 15+00
56	Fill placement/compaction - baseline Sta 10+00 - 15+00
57	Excavation near baseline Sta 17+00
58	Fill placement - baseline Sta \approx 8+00 to 15+00
59	Installation of downslope drain pipe
60	Placement of gravel drain blanket
61	Excavation near west end project
62	Facing former City sand pit - fill part way up
63	Excavation near west end project
64	Hauling pit run gravel for drain blanket
65	Cover soil stockpile at west end project
66	Compaction of fill - baseline Sta \approx 11+50
67	Excavation/embankment near top of City sand pit area
68	Inspector/surveyor extraordinaire - Gary Franklin
69	Installation of upper seep interceptor
70	Installation of lower seep interceptor
71	Inspection of crack encountered at 250' left of baseline Sta. 18+ 50 to 20+50
72	Inspection of crack encountered at 250' left of baseline Sta. 18+ 50 to 20+50
73	View of east end crack - facing south
74	View of crack - facing west - slide plane visible
75	Repair of crack
76	Repair of crack
77	Repair of crack
78	Repair of crack
79	Cover soil spreading at west end project
80	MPC moving power pole
81	Straw blowing & crimping upper end project

<u>Photo #</u>	<u>Description</u>
82	Straw blowing upper end project
83	Straw blowing lower end project
84	Straw blowing lower end project
85	Applying tackifier from bench
86	Applying tackifier above bench
87	Lower area after mulch application from upper end facing north
88	Cover soil stockpile area after mulch application - facing east
89	Mulch at southeast portion of project
90	Mulch in cover soil stockpile area - facing SE
91	Mulch in Cover soil stockpile area - facing NE
92	Mulch & tackifier at upper end project
93	Mulch & tackifier at upper end project
94	Erosion at riprap - discharge end of culvert - facing SE along Lower Sun River Bridge Road
95	Post Reclamation - New power pole
96	Post Reclamation - from intersection 4th West Hill Drive & Lower Sun River Bridge Road - facing south
97	Post Reclamation - from intersection 4th West Hill Drive & Lower Sun River Bridge Road - facing SW
98	Post Reclamation - from intersection 4th West Hill Drive & Lower Sun River Bridge Road - facing west
99	Post Reclamation - Ditch "B" upper end 4th West Hill Drive
100	Post Reclamation - from 4th West Hill Drive facing NW
101	Post Reclamation - from 4th West Hill Drive facing SW
102	Post Reclamation - from SE end project facing North along 4th West Hill Drive
103	Post Reclamation - from 4th West Hill Drive facing NW
104	Post Reclamation - upper end 4th West Hill Drive facing west
105	Post Reclamation - from 4th West Hill Drive facing NW along Bench
106	Post Reclamation - at midslope bench - facing N
107	Post Reclamation - at midslope bench - facing NW
108	Post Reclamation - at midslope bench - facing N
109	Post Reclamation - at midslope bench - facing NW
110	Post Reclamation - from above midslope bench - baseline \approx Sta. 9+00 facing NW
111	Post Reclamation - from above midslope bench - baseline \approx Sta. 9+00 facing west
112	Post Reclamation - upper end project - Airport stockpile area - facing north
113	Post Reclamation - upper end Ditch "B"
114	Post Reclamation - from NW corner project facing south



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 1



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 3



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 2



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 4



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 5



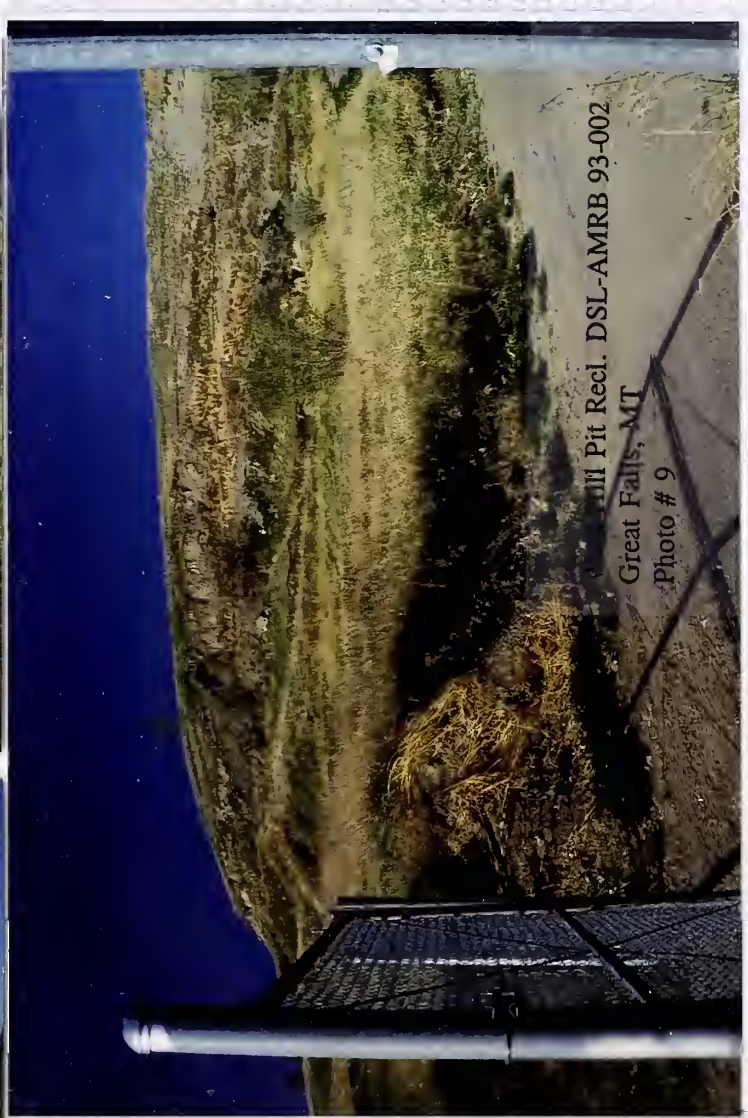
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 6



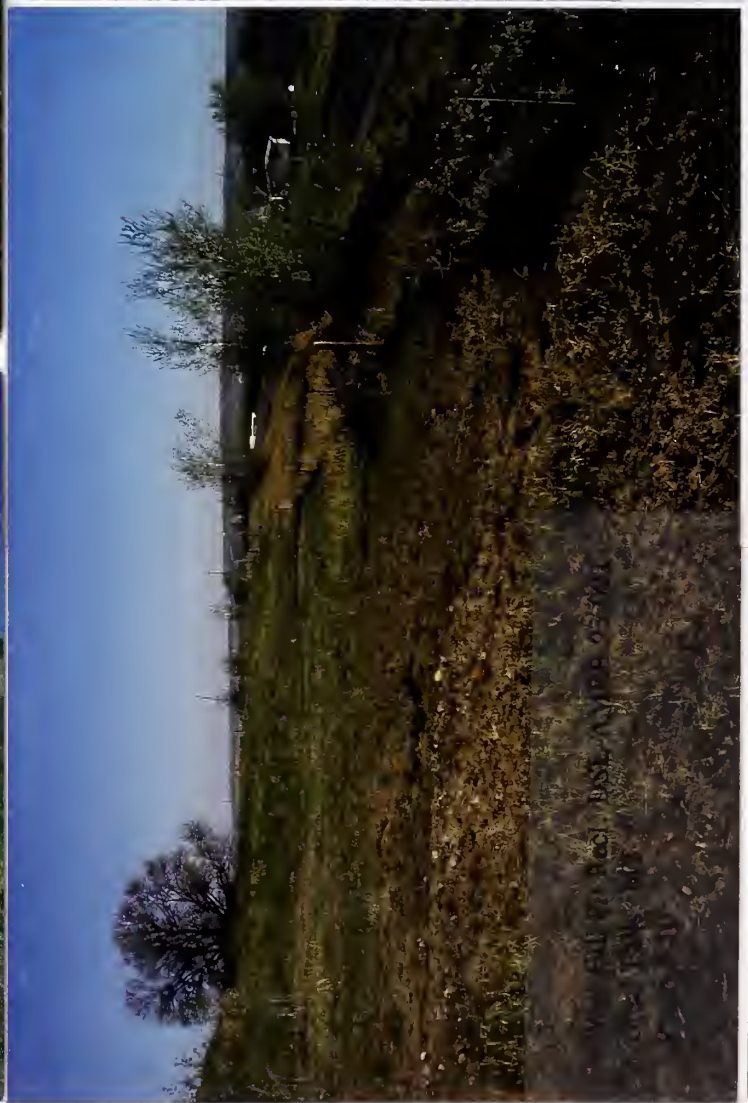
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 7



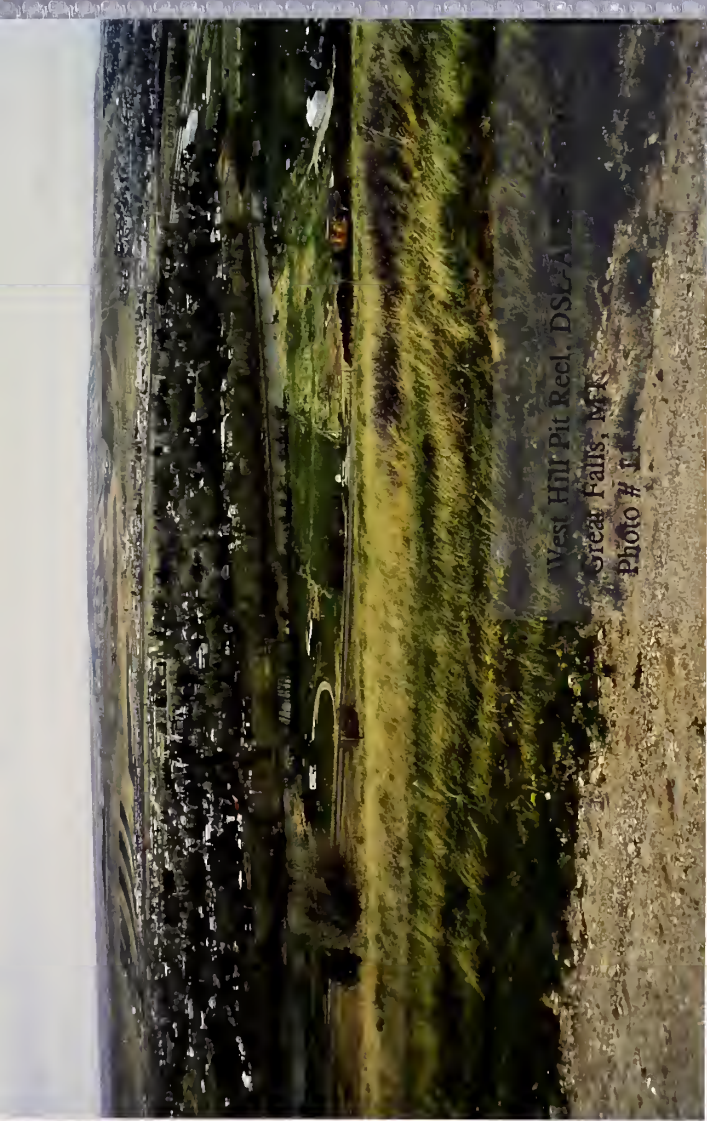
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 8



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 9



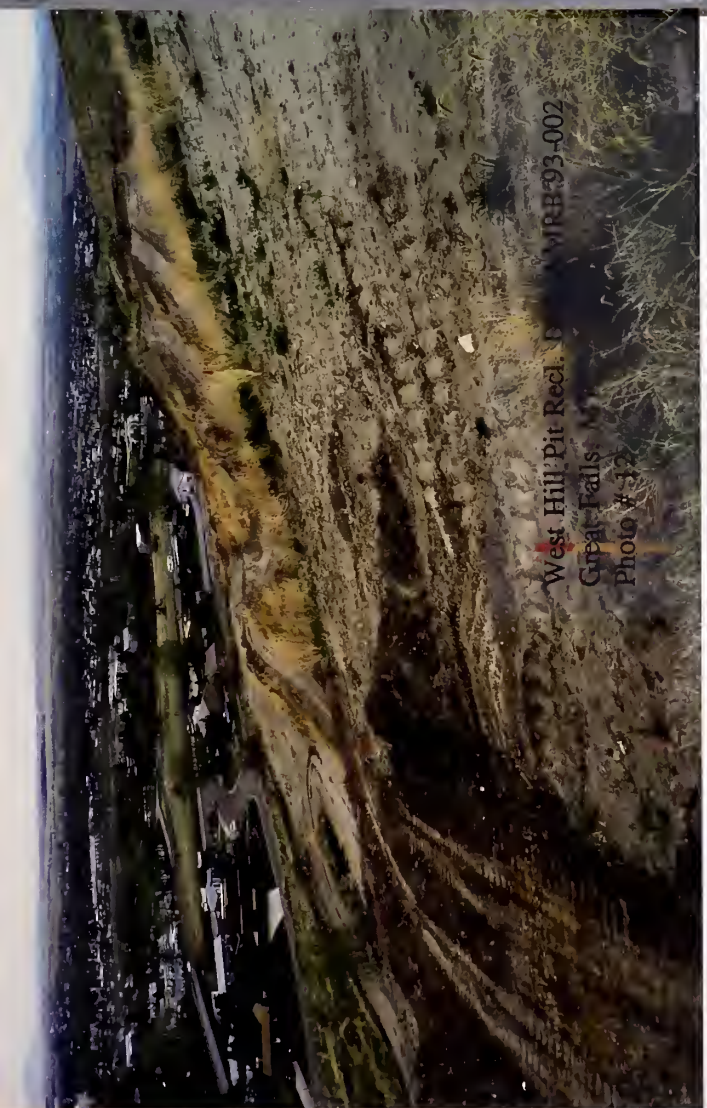
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 10



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 11



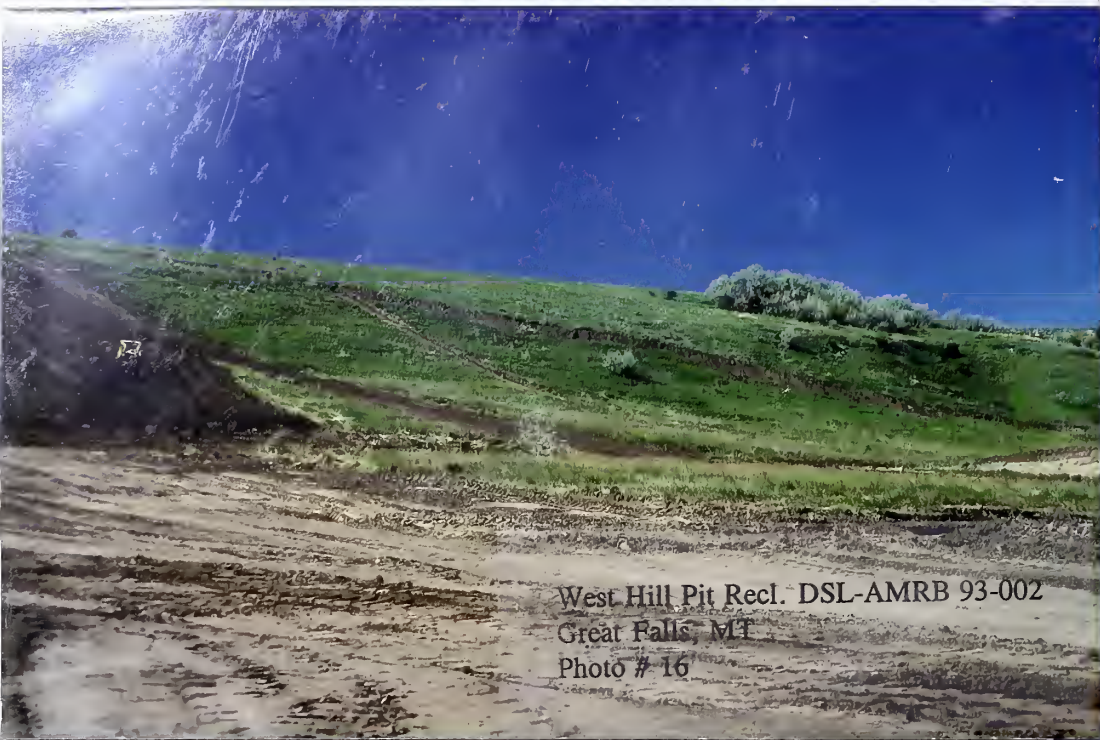
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 14



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 12



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 15



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 16



93-002



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 17



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 20



West Hill Pit Recl. DSL-AMRF 93-000

Great Falls, MT

Photo # 21



West Hill Pit Recl. DSL-AMRF 93-000

Great Falls, MT

Photo # 21



West Hill Pit Recl. DSL-AMRF 93-000

Great Falls, MT

Photo # 21



West Hill Pit Recl. DSL-AMRF 93-000

Great Falls, MT

Photo # 21



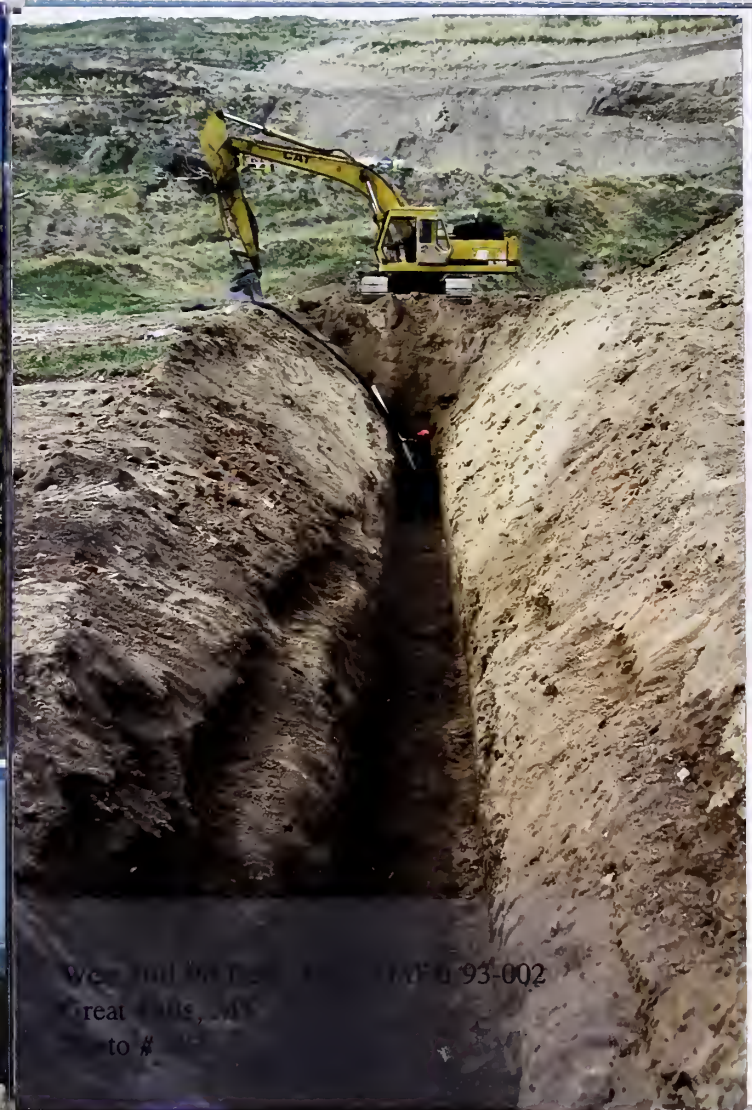
West Hill Pit Recl. DSL-AMRF 93-000

Great Falls, MT

Photo # 21



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 26



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 27



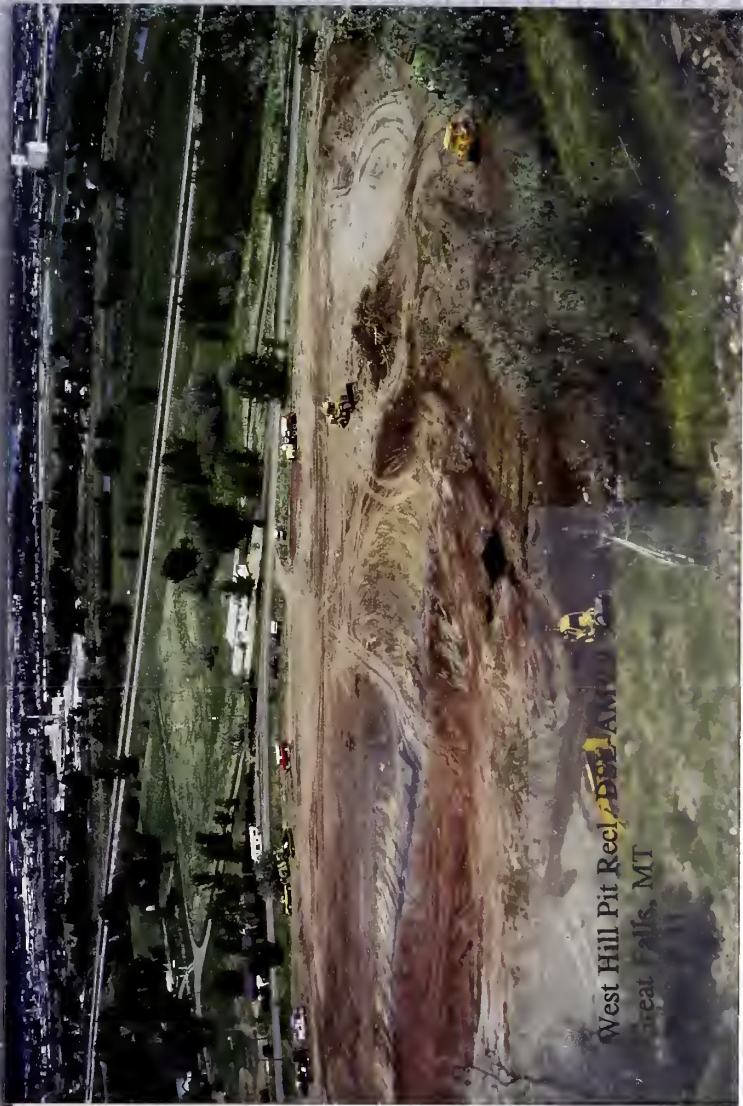
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 27



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 30



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
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West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 33



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
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West Hill Pit Recl. DSL-AMRB 93-002



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 35



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 36



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 39



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 37



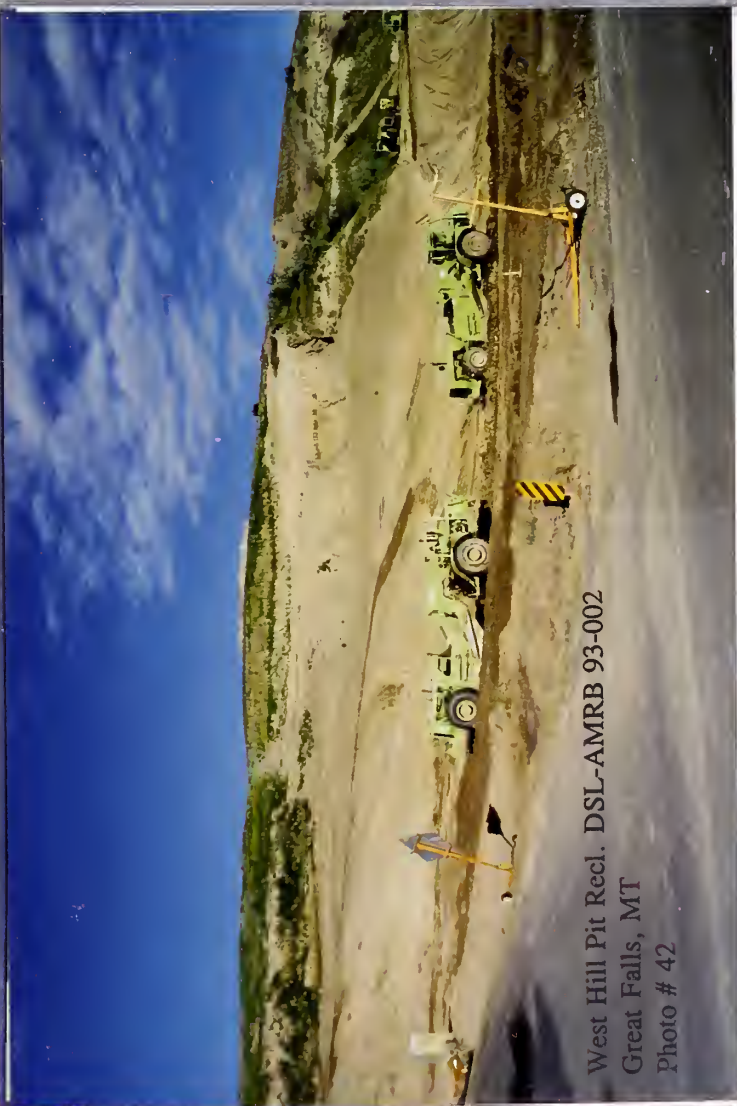
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 38



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 40



West Hill Pit Recl. DSL-AMRB 92-002
Great Falls
Photo



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 42



West Hill Pit Recl. DSL-AMRB 92-002
Great Falls, MT
Photo # 45



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 46



West Hill Pit Recl. DSL-AMRB 93-002
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Photo # 47



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 49





West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 51



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 52



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 54



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 53



West Hill Pit Recl. DSL-AMRB 93-002



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 6



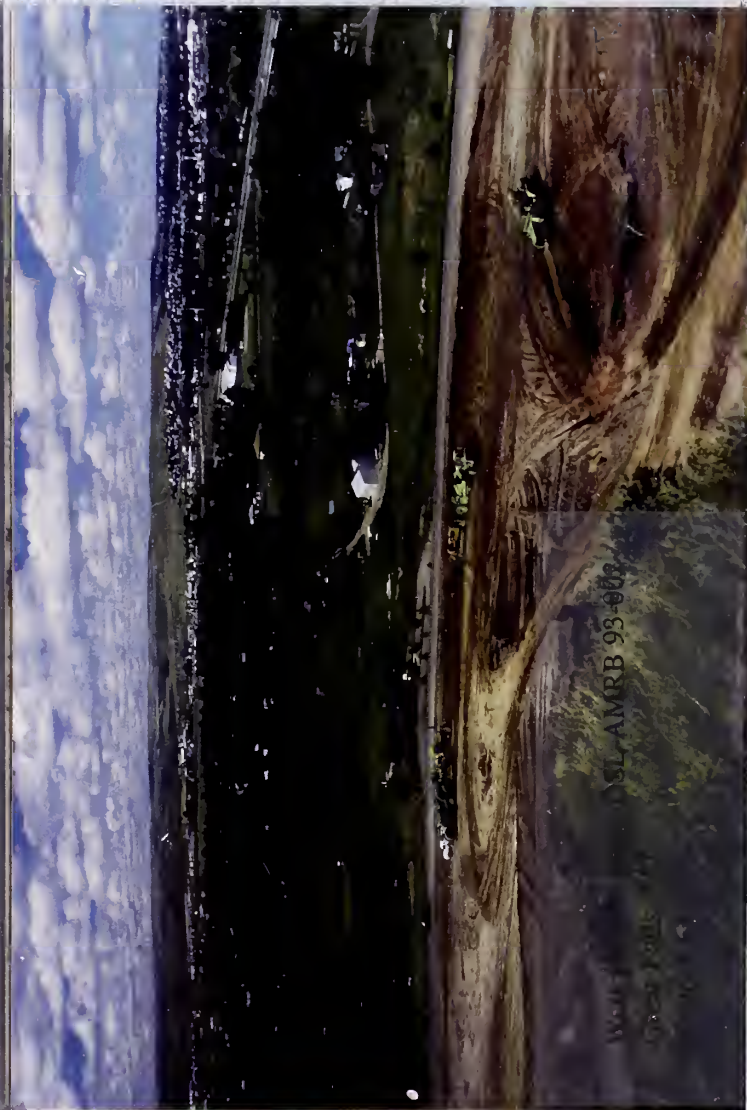
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 7



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 58



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 60



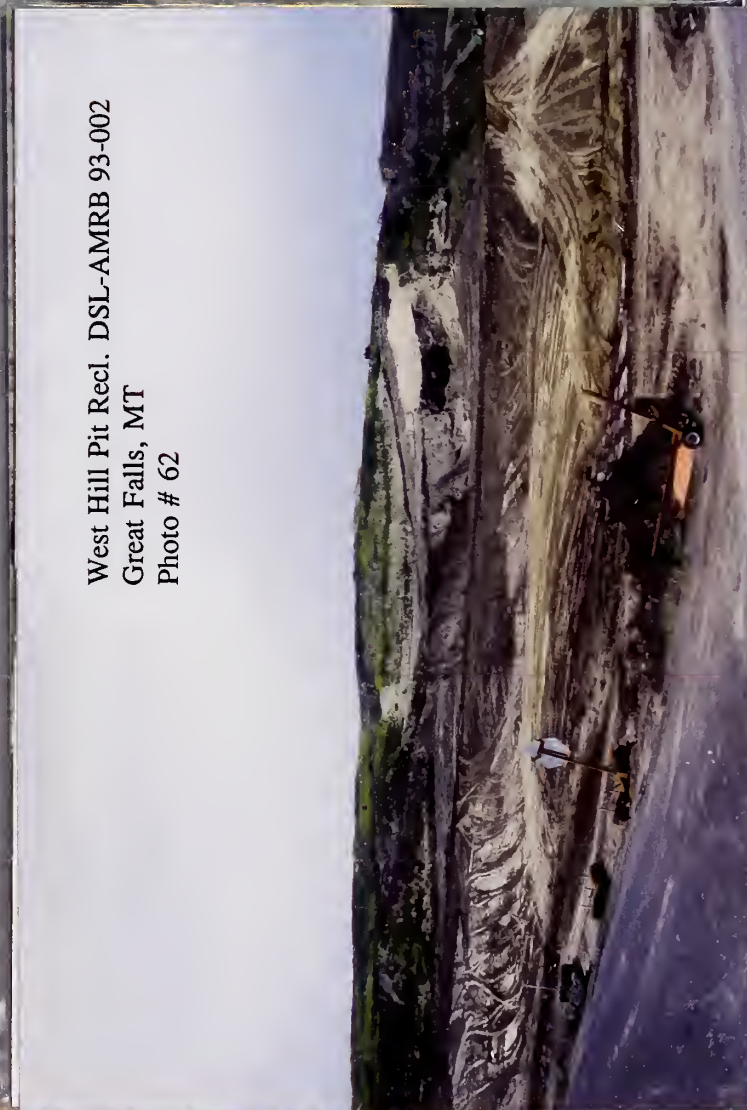
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 62



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 63



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 64



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 62



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 65



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 66



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 69



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 67



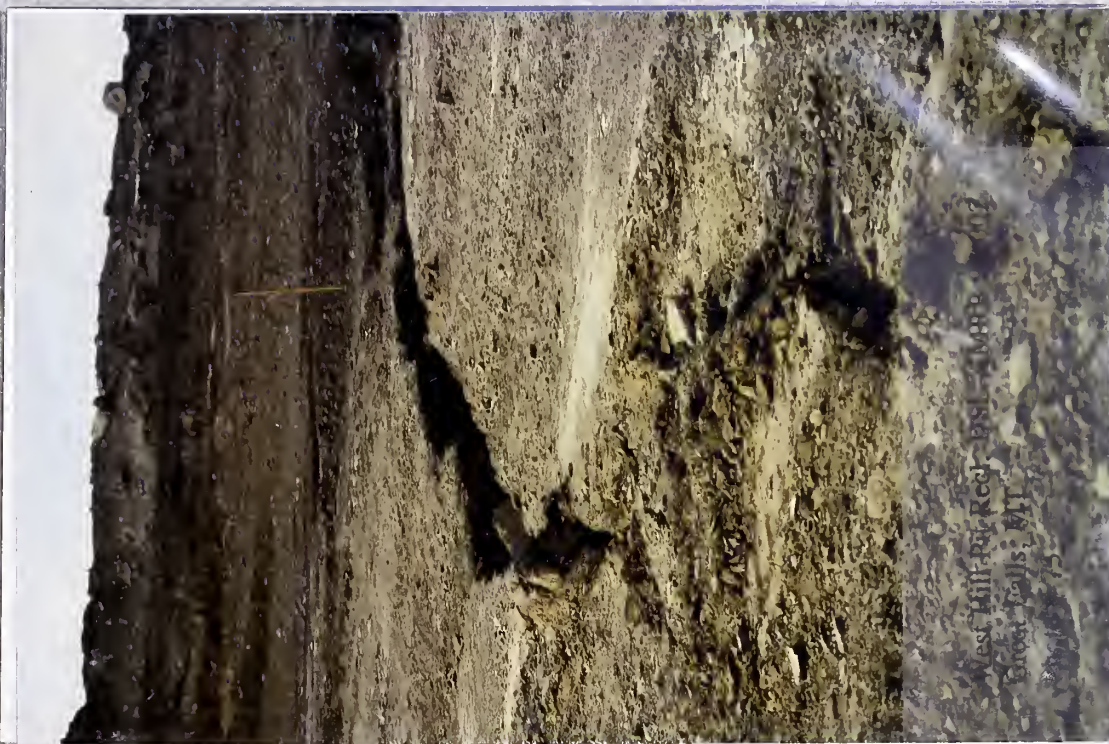
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 68



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 70



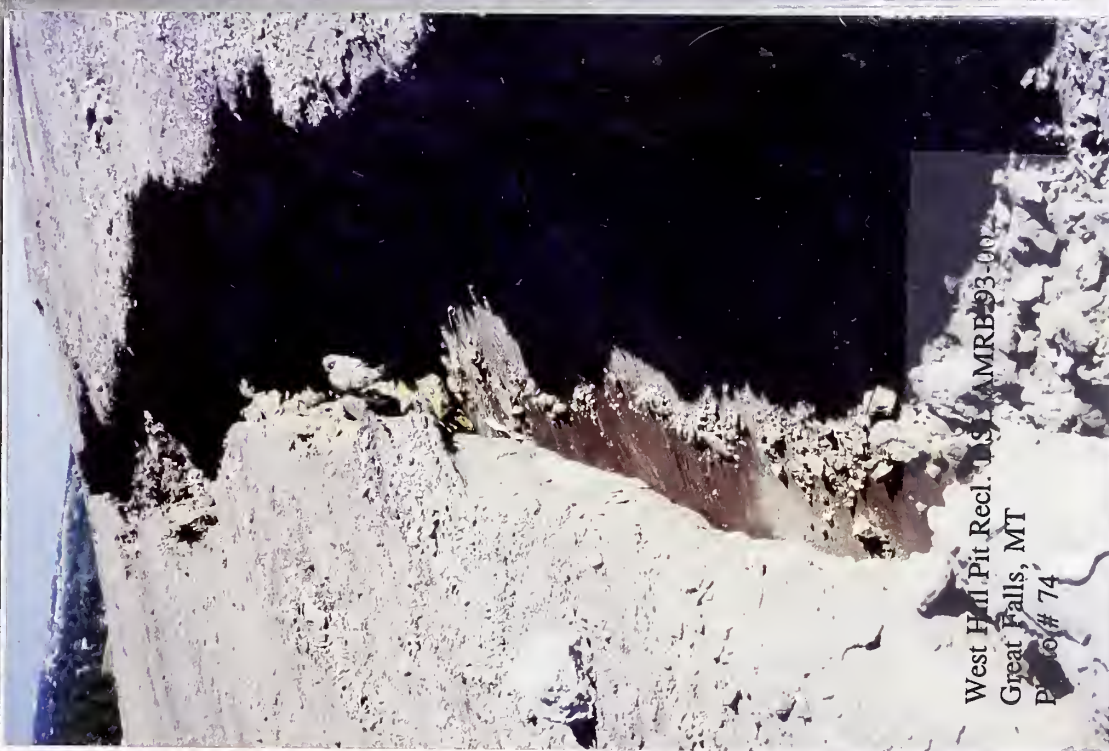
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 71



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 74



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 75



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 79



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 77



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 78



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 80

West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 81



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 83



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 84



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 85



West Hill Pit Reel. DSL-AMRB 93-002
Great Falls, MT
Photo # 86



West Hill Pit Reel. DSL-AMRB 93-002
Great Falls, MT
Photo # 87



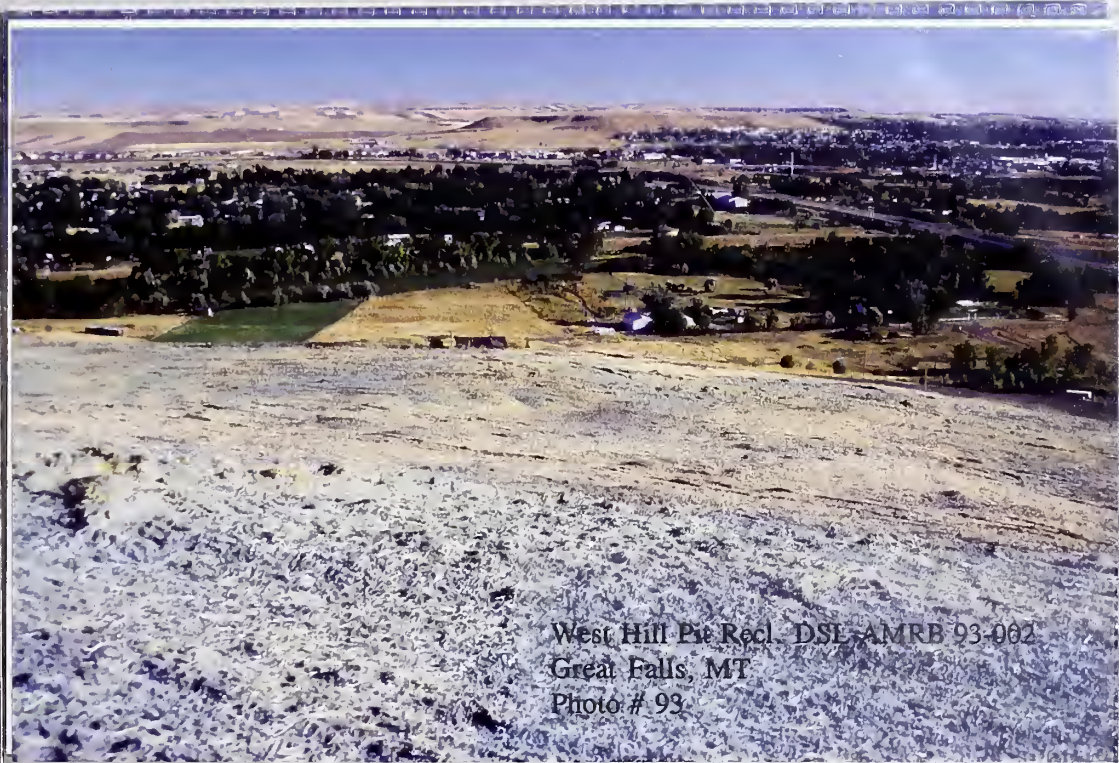
West Hill Pit Reel. DSL-AMRB 93-002
Great Falls, MT
Photo # 89



West Hill Pit Reel. DSL-AMRB 93-002
Great Falls, MT
Photo # 90



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 91



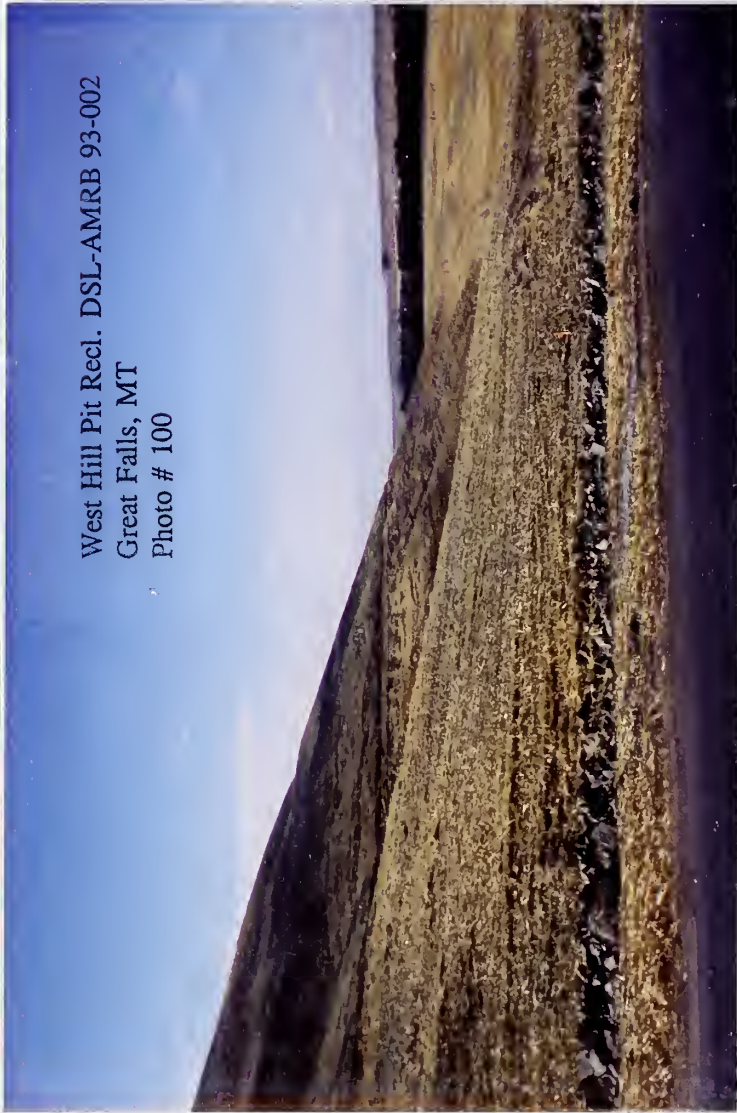
West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 93



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 92



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 95



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 100



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 103

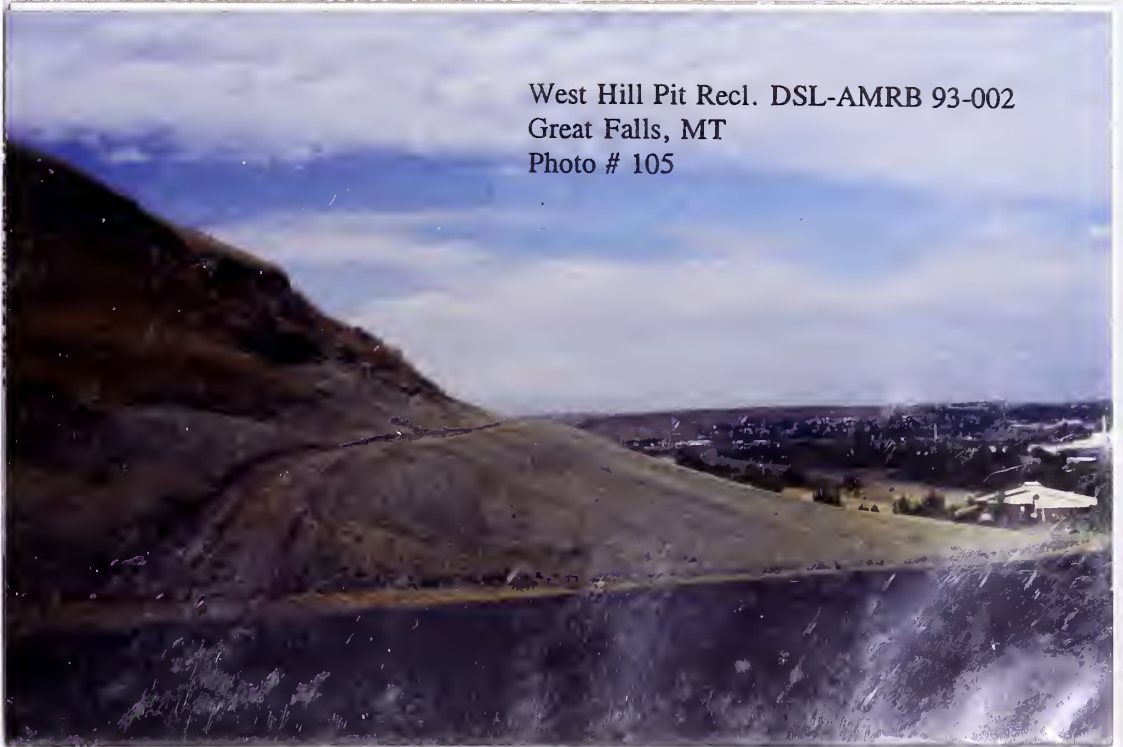


West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 104



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 102

West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 105





West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 107

West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 108

West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 109

West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 110



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 112



West Hill Pit Recl. DSL-AMRB 93-002
Great Falls, MT
Photo # 114

